Submitted to:
MDOT – C&T Division.
Lansing, MI

Submitted by:
AECOM
Lansing, MI
Proj. No. 60103292
December 28, 2009

# Preliminary Site Investigation

## M-89, Plainwell, Allegan County, MI

MDOT CS # 03023
MDOT JN 90028 and 89306

December 28, 2009

Mr. Steve Adams, Environmental Staff Specialist
Michigan Department of Transportation
Geoenvironmental Services Unit,
Construction & Technology Division
State Secondary Complex
8885 Ricks Road
P.O. Box 30049
Lansing, MI 48909

RE: Preliminary Site Investigation (PSI)
M-89 City of Plainwell, Allegan County, Michigan
AECOM Project No. 60103292

Dear Mr. Adams:

AECOM is pleased to present this Preliminary Site Investigation report for the work completed along M-89 in the City of Plainwell, Allegan County, Michigan. Six paper and two electronic copies of the report have been submitted for your use.

If you have any questions regarding this report, or the findings presented within, please contact us at (517) 913-5800.

Respectfully,

Allan R. Blaske, P.G., CPG
Senior Project Geologist

Jamie S. Matus, CPG
Vice President

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# Executive Summary

AECOM has prepared this Preliminary Site Investigation (PSI) for properties located along M-89 between the western side of the US-131 interchange and Hicks Street in the City of Plainwell, Allegan County, Michigan. In addition, samples of sediment were collected from the Kalamazoo River Mill Race. The area consists of a mix of industrial, commercial and residential properties. Nine properties were identified by the Michigan Department of Transportation (MDOT) as sites of potential environmental contamination, consisting of a variety of active and former uses deemed to be potential areas of contamination. This PSI was completed to characterize potential soil and groundwater contamination along the proposed project route. The project will consist of water and sewer improvements, culvert replacement and improvements, guardrail improvements, sidewalk improvements, curb and gutter improvements, and slope restoration along this stretch of M-89.

AECOM conducted sampling along the MDOT right-of-way (ROW) corridor at each of the suspect sites to evaluate if impacted soil and/or groundwater would be encountered during construction. Samples were collected from 19 direct-push borings. In addition, four grab samples were collected from sediment located the Kalamazoo River Mill Race river bottom. One soil sample from each boring was analyzed for potential soil contamination, and groundwater samples were collected from six borings.

To determine if soils and groundwater were impacted, analytical results were compared to the Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006. If contaminant levels in soil exceeded the Residential and Commercial I Drinking Water Protection (DWP) Criteria, they were considered impacted. If contaminants in the groundwater exceeded the Residential & Commercial I Drinking Water (DW) Criteria they were considered impacted. These criteria were used to provide budgetary estimates of volumes of impacted soil and groundwater. Residential criteria are utilized to define a site as a "facility" under the Natural Resources and Environmental Protection Act (NREPA), 1994 P.A. 451, as amended.

Analytical results indicate that PNA compounds were detected in three of the 19 soil samples, but concentrations in excess of applicable criteria were only identified at one boring location, SB-2. SB-2 is located near the northeast corner of the Harold Zeigler Chrysler dealership property, which is located at 1186 East M-89. No contaminants were found in groundwater samples collected during this investigation. PNA compounds were detected in two of the four sediment samples from the Kalamazoo River Mill Race, and lead was detected in one sample in excess of the statewide default background concentration. All PNA compounds and metals were below applicable criteria. No PCBs were detected in any of the sediment samples.

Based on this sampling conducted during this investigation, significant quantities of impacted soil and groundwater should not be expected during construction activities.

# 1.0 Introduction

The Michigan Department of Transportation (MDOT) Construction and Technology Division retained AECOM to conduct a Preliminary Site Investigation (PSI) along M-89 in Allegan County, Michigan. The section of M-89 is located in the City of Plainwell, between the western side of US-131 to the west and Hicks Street to the east. Figure 1 illustrates the project location. Soil and groundwater samples were collected at nine properties which were identified as potential sites of environmental contamination along this section of M-89. The proposed MDOT project consists of water and sewer improvements, culvert replacement and improvements, guardrail improvements, sidewalk improvements, curb and gutter improvements, and slope restoration along this stretch of M-89. The purpose of this investigation was to: 1) collect samples of soil and/or groundwater at sites of known or potential contamination; 2) evaluate and estimate the extent of contaminated soil and/or groundwater within the areas of proposed construction; 3) recommend further investigation not covered in the PSI work plan; and, 4) provide recommendations for methods, procedures and construction cost estimates for properly addressing contamination that may be encountered within the area of proposed construction.

### 1.1 Site Location

Nine sites were investigated for this PSI along M-89 in the City of Plainwell, Allegan County, Michigan. These sites include:

- 1149 E. M-89, (Admiral gasoline station)
- 1186 E. M-89 (Harold Zeigler Chrysler dealership)
- 665 Allegan Street (Admiral gas station)
- 623 Allegan Street (vacant lot – former gasoline station and waste oil disposal facility)
- 601 Allegan Street (vacant lot – former gasoline station)
- 551 Allegan Street (Wesco gas station)
- Plainwell Paper Mill
- Kalamazoo River Mill Race bridge
- 200 Block of East Bridge Street (SBC Communications facility)

The location, address, and MDOT stationing of each site is provided on Table 1. Figure 1 illustrates the approximate project location. Figures 2 through 7 provide detailed illustrations of soil borings at the areas of investigation along the M-89 corridor.

### 1.2 General Site Characteristics

The sites of potential environmental contamination are located along M-89 through the City of Plainwell, and consist of three active gasoline stations, two former gasoline stations, an inactive

paper mill, an automotive dealership, a telecommunications facility, and bridge over the Kalamazoo River Mill Race. M-89 in this area is generally a two-lane roadway, although additional lanes are present near the US-131 overpass, with curb and gutter present along the entire length investigated during this PSI. Parallel parking on each side of M-89 is located within the downtown area.

### 1.3 Background Information

Site reconnaissance of the project area was conducted on November 9, 2009. Prior to the site visit, MDOT provided AECOM with an MDOT Office Memorandum (dated August 10, 2009), which summarized sites of known or potential environmental contamination along M-89, in the proposed construction area. The sites identified (from west to east along M-89) include the following:

- 1149 E. M-89 (Admiral gasoline station) – This site was identified (by MDOT) as a site of potential environmental contamination. The address is an active gasoline filling station and convenience store.
- 1186 E. M-89 (Harold Zeigler Chrysler dealership) - This site was identified (by MDOT) as a site of potential environmental contamination. The address is an active automotive dealership.
- 665 Allegan Street (Admiral gas station) - This site was identified (by MDOT) as a site of potential environmental contamination. The address is an active gasoline filling station and convenience store.
- 623 Allegan Street (vacant lot – former gasoline station and waste oil disposal facility) - This site was identified (by MDOT) as a site of potential environmental contamination. The address is currently vacant and is located at the southeast corner of Allegan Street and Naomi Street, and is a former gasoline station and waste oil disposal facility. This site is located under Part 201 of NREPA as a site of environmental contamination.
- 601 Allegan Street (vacant lot – former gasoline station) - This site was identified (by MDOT) as a site of potential environmental contamination. The address is currently vacant and is located at the southwest corner of Allegan Street and Prince Street, and is a former gasoline station.
- 551 Allegan Street (Wesco gas station) - This site was identified (by MDOT) as a site of potential environmental contamination. The address is an active gasoline filling station and convenience store, located at the southeast corner of Allegan Street and Prince Street.
- Plainwell Paper Mill - This site was identified (by MDOT) as a site of potential environmental contamination. This site has nearly a ½-mile of frontage on the north side of Allegan Street between the Kalamazoo River Mill Race and Prospect Street. The mill is currently closed but is part of the Kalamazoo River Superfund site.

- Kalamazoo River Mill Race bridge – This site was identified (by MDOT) as a site of potential environmental contamination. This site consists of a bridge on M-89 over the Kalamazoo River Mill Race and is part of the Kalamazoo River Superfund site.
- 200 Block of East Bridge Street (SBC Communications facility) - This site was identified (by MDOT) as a site of potential environmental contamination. This site is an SBC Communications facility with a diesel-powered generator. The site is immediately adjacent to the east of the London Grill which is located at 200 East Bridge Street.

**1.4 Scope of Work**

The proposed investigative activities included collecting soil and/or groundwater samples from the M-89 ROW at each suspect site, in order to characterize contaminants that may be encountered during construction activities. The MDOT project will consist of water and sewer improvements, culvert replacement and improvements, guardrail improvements, sidewalk improvements, curb and gutter improvements, and slope restoration along this stretch of M-89. The sample locations were concentrated around the areas of suspected impact within the proposed construction zone. Samples were collected by advancing direct push (Geoprobe) borings at the known or potential areas of contamination and within the MDOT right of way. If groundwater was encountered during drilling, a temporary monitoring well was installed to collect a groundwater sample at select locations. In addition, four grab samples were collected from river bottom sediment located in the Kalamazoo River Mill Race. Additional activities completed as part of the scope of work include providing recommendations for further investigation, methods and procedures, and construction cost estimates for properly addressing contamination that intersects the area of proposed construction.

On November 9, 12, and 13, 2009, AECOM conducted the sampling along the ROW corridor at each of the subject sites. A total of 19 borings were advanced and sampled across the nine sites. Table 2 provides a summary of the boring numbers, boring depths, sample depths, locations, and addresses of sampling points.

The overall approach of the sampling was to screen the soil at each boring with a photoionization detector (PID) to determine the zones of highest impact of volatile organic compounds, including gasoline. Soil samples were screened with the PID at one-foot intervals and observed for staining that may indicate the presence of impact. The soil intervals with the highest PID reading were generally chosen for laboratory analysis. If the PID did not detect any contamination, AECOM obtained samples that were representative of the soil conditions and generally within the depth of proposed construction. One soil sample from each boring was submitted to the laboratory for analysis. Groundwater samples were collected from 6 of the 19 borings.

To determine if soils and groundwater were impacted, the analytical results were compared to Part 201 Residential and Commercial I Generic Cleanup Criteria, January 2006 revision. If contaminant levels in soil exceeded the Residential and Commercial I Drinking Water Protection (DWP) Criteria they were considered impacted. If contaminants in the groundwater exceeded the Residential & Commercial I Drinking Water (DW) Criteria they were considered impacted. Contaminant concentrations which exceed these criteria are utilized to define a site as a “facility” under the Natural Resources and Environmental Protection Act (NREPA), 1994 P.A. 451, as amended.

The DWP and DW criteria were used to estimate the volume of impacted soils that may be encountered within the areas of construction. If other criteria were exceeded but below DWP (i.e., direct contact criteria or state default background levels), the soil is still considered to be impacted for the purposes of this report.

# 2.0 Investigation Methods

### 2.1 Soil and Groundwater Sampling

Soil was collected at each boring location using a direct-push, continuous sampler (Geoprobe 6620 DT) to determine the subsurface soil stratigraphy. An AECOM scientist was present during all boring activities to record the type of soil encountered, field screen all of the soil samples collected, and determine which samples to submit for laboratory analysis. During sampling, a PID was used to screen for possible contamination. If the PID indicated the potential presence of volatile compounds, a sample from the zone with the highest PID level was sent to the lab for analysis. If the PID did not indicate contamination, AECOM visually inspected the soil for staining or fill material and collected samples from these areas. If no staining was observed and no olfactory evidence was present, a representative soil sample was obtained for analysis. A boring log for each boring is contained in Appendix A.

To facilitate the collection of groundwater samples, a one-inch diameter PVC temporary monitoring well was installed in the borehole. The PVC well was placed in the open borehole with a five-foot section of slotted screen. Groundwater was removed from the temporary well pipe using polyethylene tubing connected to a peristaltic pump. Samples for analysis of metals were filtered using a 0.45 micron filter at the time of sampling. Groundwater sampling was conducted at 6 of the 19 boring locations, one from each of the sites.

All collected samples were placed into appropriate, clean, laboratory-supplied sample containers, and immediately placed in coolers with ice. Chain of custody forms were completed in the field at the time of sampling and accompanied the samples to the laboratory. Samples were delivered to Fibertec Environmental Services Laboratory in Holt, Michigan for analysis.

### 2.2 Sample Analytical Methods

Based on the review of the MDEQ information and the site reconnaissance, the potential contamination is related to former and current gasoline filling stations, a former paper mill, an automotive dealership, and a telecommunications facility. Tanks at the suspect underground storage tank (UST) sites likely contained leaded and/or unleaded gasoline and diesel fuel. The samples collected from locations related to the gasoline stations were submitted for analysis of select volatile organic compounds (VOCs) - including benzene, toluene, ethylbenzene, xylenes, naphthalene, MTBE, and trimethylbenzene isomers [BTEX + 5]), and semi-volatile polynuclear aromatic hydrocarbon (PNA) compounds. The samples from the automotive dealership were submitted for BTEX + 5, PNAs, and the metals cadmium, chromium, and lead analysis. The samples from the former paper mill were submitted for full-scan VOCs, PNAs, Michigan Ten Metals, and

polychlorinated biphenyls (PCBs). Samples were analyzed for the following parameters by the following methods:

| Analytical Methods | |
|---|---|
| Volatile Organic Compounds (full-scan VOCs and BTEX+5) | Method 8260/5035 |
| Polynuclear Aromatic Hydrocarbons (PNAs) | Method 8270 |
| Metals | Method 6020 |
| Polychlorinated Biphenyls | Method 8082/3550B |

# 3.0 Investigation Results

### 3.1 Soil Conditions & Site Hydrogeology

Site-specific soil stratigraphy was determined during the collection of soil samples. A boring log for each sampling location is contained in Appendix A. Table 2 summarizes the location and depth of the sampling points. Subsurface soils throughout the area of investigation consisted predominantly of dark brown to tan sands with varying amounts of silt and gravel. When encountered, groundwater samples were collected from temporary monitor wells. Permanent monitoring wells were not installed as part of this project and therefore, the actual direction of groundwater flow could not be determined.

1149 East M-89 (Admiral gasoline station)

Two borings (SB-1 and SB-2) were advanced (as illustrated on Figure 2) on the north side of M-89 adjacent to this address. Subsurface soil included a mix of fine-coarse grained sand and silty sand with varying amounts of gravel. All borings were advanced to a depth of 20 feet below ground surface (bgs). Groundwater was not encountered in either of these borings.

1186 East M-89 (Harold Zeigler Chrysler dealership)

Two borings (SB-3 and SB-4) were advanced on the south side of M-89, adjacent to this address (Figure 2). Both borings encountered predominantly fine-coarse sand and gravelly sand with some silt. Both borings were advanced to a depth of 20 feet bgs and groundwater was not encountered in either boring.

665 Allegan Street (Admiral gasoline station)

Three borings (SB-5, SB-6, and SB-7) were advanced adjacent to this site, located on the south side of Allegan Street (M-89), as shown on Figure 3. Borings encountered fine-coarse grained sand with varying amounts of both silt and gravel. All three borings were advanced to a total depth of 20 feet bgs. Groundwater was encountered in boring SB-5 at a depth of 19 feet bgs, SB-6 at 17.5 feet bgs, and in boring SB-7 at a depth of 16.5 feet bgs. A groundwater sample was collected from boring SB-6.

623 Allegan Street (former gasoline station and waste oil site)

Two borings (SB-8 and SB-9) were advanced at this location (southeast corner of Allegan Street and Naomi Street), on the south side of Allegan Street (M-89), as shown on Figure 3. Borings generally encountered fine-coarse grained silty sand with gravel. SB-8 was advanced to a depth of 15 feet bgs and SB-9 was advanced to a depth of 20 feet bgs. Groundwater was encountered at 14 feet bgs at both boring locations. A groundwater sample was collected from boring SB-9.

601 Allegan Street (former gasoline station)

Three borings (SB-10, SB-11, and SB-12) were advanced at this location (southwest corner of Allegan Street and Prince Street, on the south side of Allegan Street (M-89), as shown on Figure 4. Borings generally encountered fine-coarse grained silty sand with gravel, although a layer of sandy clay was encountered at SB-12 from 0 to 5 feet bgs. Borings SB-10 and SB-11 were advanced to a depth of 15 feet bgs and SB-12 was advanced to a depth of 20 feet bgs. Groundwater was encountered at 14 feet bgs at SB-10 and SB-12, and at 13 feet bgs at SB-11. A groundwater sample was collected from boring SB-12.

551 Allegan Street (Wesco gasoline station)

Three borings (SB-13, SB-14, and SB-15) were advanced at this location (southeast corner of Allegan Street and Prince Street, on the south side of Allegan Street (M-89), as shown on Figure 4. Boring SB-15 was located on the north side of M-89, across the street from the subject site. A monitoring well was observed on this side of the road, indicating the potential for migration of contamination beneath M-89. Borings generally encountered fine-medium grained silty sand underlain by fine-coarse grained gravelly sand. Each of these borings were advanced to a depth of 15 feet bgs. Groundwater was encountered at 13 feet bgs at SB-13, 14 feet bgs at SB-14, and at 13.5 feet bgs at SB-15. A groundwater sample was collected from boring SB-15.

Plainwell Paper Mill (inactive paper mill)

Three borings (SB-16, SB-17, and SB-18) were advanced at this location, which has nearly a ½-mile of frontage on the north side of Allegan Street between the Kalamazoo River Mill Race and Prospect Street - as shown on Figure 5. Borings generally encountered fine-medium grained sand with varying amounts of silt. The amount of gravel within the soil generally increased with depth at each boring location. Each of these borings were advanced to a depth of 15 feet bgs. Groundwater was encountered at 12 feet bgs at SB-16, 13 feet bgs at SB-17, and at 11.5 feet bgs at SB-18. A groundwater sample was collected from boring SB-17.

Kalamazoo River Mill Race bridge

Four sediment samples (SS-1 through SS-4) were collected from the stream bottom at this location, which is a bridge on M-89 over the Kalamazoo River Mill Race. One sample of the stream bottom sediment was collected at each of the four corners of the bridge structure, as indicated on Figure 6. The stream bottom sediments at each location generally consisted of coarse grained sands and very little to no fine grained sediments were encountered.

200 Block of East Bridge Street (SBC Communications facility)

One boring (SB-19) was advanced at this site, which is located immediately adjacent to the east of the London Grill which is located at 200 East Bridge Street (Figure 7). Soils encountered at SB-19 consisted of fine-medium grained silty sand underlain by fine-coarse gravelly sand. Groundwater was encountered groundwater at a depth of 11.5 feet bgs at SB-19. A groundwater sample was collected from this boring. SB-19 was advanced to a depth of 15 feet.

**3.2 Soil and Groundwater Analytical Results**

Soil sample analytical results for samples collected from the borings are summarized in Tables 3 through 7, and groundwater results are summarized in Tables 8 through 11. Copies of the laboratory reports are included in Appendix B.

1149 East M-89 (Admiral gasoline station)

Soil samples were collected from two borings (SB-1 and SB-2) at this site. No VOC compounds were detected above the laboratory reporting limits in either of these samples.

The sample collected from boring SB-2 contained benzo(a)pyrene at a concentration in excess of the drinking water protection criteria. Several other PNA compounds were detected in the soil samples from both SB-1 and SB-2 but at concentrations below applicable criteria.

No groundwater samples were collected from this site.

1186 E. M-89 (Harold Zeigler Chrysler dealership)

Soil samples were collected from two borings (SB-3 and SB-4) at this site, and no VOC or PNA compounds were detected above the laboratory reporting limit in either of these samples. Various metals were detected at concentrations below all applicable criteria in both samples.

No groundwater samples were collected from this site.

665 Allegan Street (Admiral gasoline station)

Soil samples were collected from three borings (SB-5, SB-6, and SB-7) at this site. No VOCs or PNAs were detected in these samples at concentrations above the laboratory reporting limit.

A groundwater sample was collected from boring SB-6 at this site. The sample did not contain any VOCs or PNAs at concentrations above the laboratory reporting limit.

623 Allegan Street (former gasoline station and waste oil site)

Soil samples were collected from two borings (SB-8 and SB-9) at this property. No VOCs or PNAs were detected in these samples at concentrations above the laboratory reporting limit. Both chromium and lead were detected in each of the samples, but at concentrations below the statewide default background.

A groundwater sample was collected from boring SB-9 at this site. The sample did not contain any VOCs or PNAs at concentrations above the laboratory reporting limit.

601 Allegan Street (former gasoline station)

Soil samples were collected from three borings (SB-10, SB-11, and SB-12) at this location. No VOCs were detected in these samples at concentrations above the laboratory reporting limit. One PNA compound (phenanthrene) was detected in the soil sample from SB-11 but at a concentration well below the applicable criteria.

551 Allegan Street (Wesco gasoline station)

Soil samples were collected from three borings (SB-13, SB-14, and SB-15) at this location. No VOC or PNA compounds were detected in these samples at concentrations above the laboratory reporting limit.

A groundwater sample was collected from boring SB-15 at this site. The sample did not contain any VOCs or PNAs at concentrations above the laboratory reporting limit.

Plainwell Paper Mill (inactive paper mill)

Soil samples were collected from three borings (SB-16, SB-17, and SB-18) along the southern edge of the former paper mill at this location. No VOC compounds were detected in these samples at concentrations above the laboratory reporting limit. One PNA compound (fluorine) was detected in the sample from SB-16, but at concentrations below applicable criteria. Several metals were detected in the samples from this site, but all at concentrations below the statewide default background concentration (with the exception of lead in SB -16 at 29,000 micrograms per kilogram). All concentrations were found to be below applicable criteria. Similarly, no PCBs were detected in these samples above the laboratory reporting limit.

A groundwater sample was collected from boring SB-17 at this site. The sample did not contain any VOCs, PNAs, PCBs, or metals at concentrations above the laboratory reporting limit.

Kalamazoo River Mill Race bridge

Four sediment samples were collected from the Kalamazoo River Mill Race, one sample at each corner of the M-89 bridge. The location of these samples is illustrated on Figure 6. Analytical data for the samples is summarized on Tables 13, 14, and 15.

Concentrations of metals in the sediment were generally low, with only one sample (lead in SS-4) at a concentration above the statewide default background for soil, and no concentrations exceed applicable criteria. Average concentrations of metals were low, and did not exceed any criteria. Average concentrations are expected to represent concentrations within a stockpile of excavated soil/sediment during construction.

No PCBs were detected in any of the four samples at concentrations above the laboratory reporting limit.

PNA compounds were found in two of the four samples (SS-1 and SS-3, both on the west side of the Mill Race), but at concentrations below applicable criteria.

200 Block of East Bridge Street (SBC Communications facility)

A soil and groundwater sample was collected from a single boring at this site (SB-19). No VOC or PNA compounds were detected in these samples at concentrations above the laboratory reporting limit.

# 4.0 Findings and Conclusions

AECOM collected soil and groundwater samples from 19 borings at sites of potential environmental concern along M-89 in the City of Plainwell, Allegan County. Soil was collected for analysis from all locations. Groundwater was collected at 6 of the 19 boring locations. Soil samples were collected at selected depths in the MDOT ROW in order to evaluate the extent of impacted soil within the areas of proposed construction.

Impacted soil was observed to be very limited along this section of M-89. No volatile organic compounds were found in soil samples, and only 3 samples contained PNA compounds above the laboratory detection limit. Of these, only the sample from SB-2 counted one compound (benzo(a)pyrene) at a concentration above the Generic Residential Direct Contact Criteria. Lead was found in two samples (SB-4 and SB-18) at concentrations above the Statewide Default Background, but below any applicable criteria. No PCBs were detected in any of the soil samples.

Groundwater samples were collected from each site, and no compounds (VOCs, PNAs, metals, PCBs) were detected at concentrations above the laboratory reporting limit.

Four sediment samples were collected from beneath the bridge over the Kalamazoo River Mill Race. No PCBs were detected above the laboratory reporting limit. One sample (SS-4) contained lead at a concentration greater than the Statewide Default Background, but below any applicable criteria. PNA compounds were found in 2 samples, but at concentrations below applicable criteria.

Based on the sampling conducted during this investigation, it does not appear that significant quantities of impacted soil, groundwater, or sediment will be encountered during construction activities.

# 5.0 Recommendations for Further Investigation

This preliminary site investigation identified very limited amounts of subsurface impacts within the study area. At this time, no further investigation is recommended to define the extent of impacts. Observed subsurface impacts appear to be isolated and in very low concentrations.

# 6.0. Recommendations for Field Procedures and Cost Estimates

Minor impacts to soil and sediment were identified as part of this PSI. These impacted materials appear to be isolated and the concentrations low. Removal and disposal of soil may be necessary during the construction activities, if visibly stained or odorous soil is observed. Based on the sampling of this investigation, it seems unlikely that large quantities of these soils will be encountered.

Impacted soil might be encountered in the areas adjacent to former and active gasoline filling stations. Once impacted soil is identified by the contractor, any excavated impacted soil should be segregated for proper testing and disposal. Concentrations observed in the samples collected during this investigation were low, and should not be expected to exceed direct contact criteria (hazardous to construction workers), especially during excavation and dilution of the soil.

Workers should wear the proper personal protective equipment (PPE) to eliminate exposure to impacted soil and groundwater, if encountered. As with all operating and former gasoline filling stations, the potential exists for impacts to soil and groundwater. The sampling performed during this PSI was not an exhaustive investigation, and it is possible that additional areas of contamination may be discovered during construction.

Safety is the responsibility of the contractor. Any excavation areas should be sloped to provide safe stable excavations. OSHA has initiated strict standards for safety within construction excavations. These standards are outlined in OSHA Health and Safety Standards for Excavations, 29 CFR, Part 1926, and other OSHA regulations. Please refer to this publication for more details regarding safety considerations for construction excavations.

To comply with the OSHA Standard 29 CFR 1910.120 (e), all employees working at a site who are exposed to hazardous substances, health hazards, or safety hazards must receive appropriate training.

# 7.0 General Qualifications

AECOM was retained to perform a Preliminary Site Investigation for 9 locations located along M-89 in the City of Plainwell, Allegan County, Michigan, between the west side of US-131 and Hicks Street. The information presented in this report, and the conclusions and recommendations contained herein, are based upon information obtained by AECOM and information supplied by MDOT.

AECOM assumes no responsibility for the discovery and elimination of hazards that could possibly cause accidents, injuries, or damage. Compliance with the recommendations and/or suggestions contained in this report in no way assures elimination of hazards or the fulfillment of a property owner's obligation under any local, state, or federal laws or any modifications or changes thereto. It is the responsibility of the subject property owner to notify authorities of any conditions that are in violation of current legal standards.

Environmental conditions and regulations are subject to constant change and reinterpretation. It should not be assumed that current conditions and/or regulatory positions will remain constant. Furthermore, because the facts stated in this report are subject to professional interpretation, differing conclusions could be reached by other professionals.

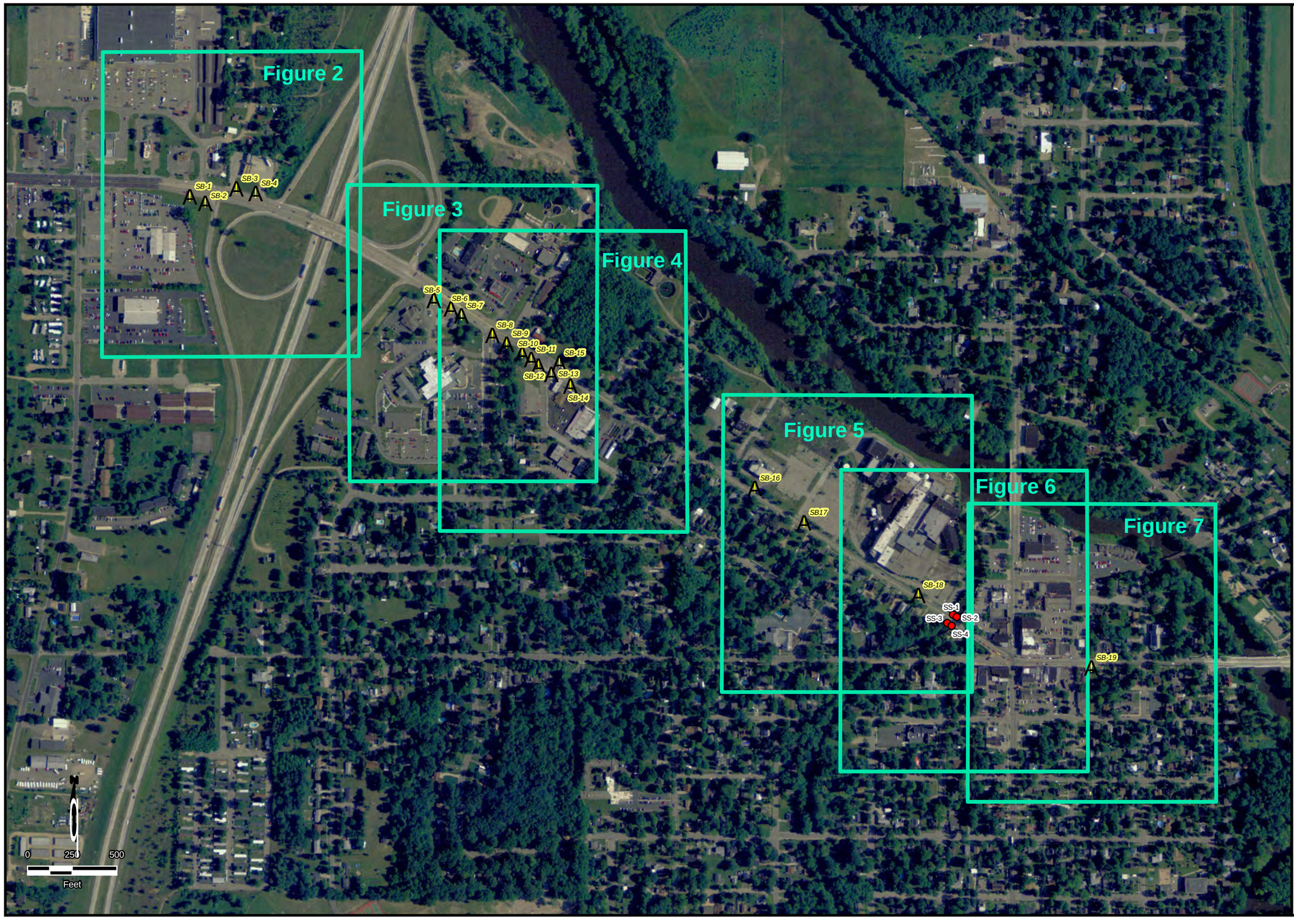
Contaminants may be hidden in the subsurface materials, having been placed there due to the actions of man, or covered by foliage, water, snow, concrete, asphalt or other materials. This contamination may not be present in predictable locations. The most that AECOM can do is formulate a logical assessment program to reduce the client's risk of later discovering unknown contamination. The greater the extent of exploration of a property, the greater the probability of finding contamination, if present. Even with very extensive exploration, it is not possible to say with total certainty that contaminants are not present at a particular site.

# 8.0 References

Michigan Department of Environmental Quality, Storage Tank Division, Website

Michigan Department of Environmental Quality, Environmental Response Division, Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, Administrative Rules, January, 2006

Michigan Department of Transportation, MDOT Office Memorandum, Project Area Contamination Survey (PACS) for M-89 Reconstruction Project in Plainwell, Allegan County, August 10, 2009

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# PROJECT SITE LOCATION AND LOCATION OF SAMPLING POINTS

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
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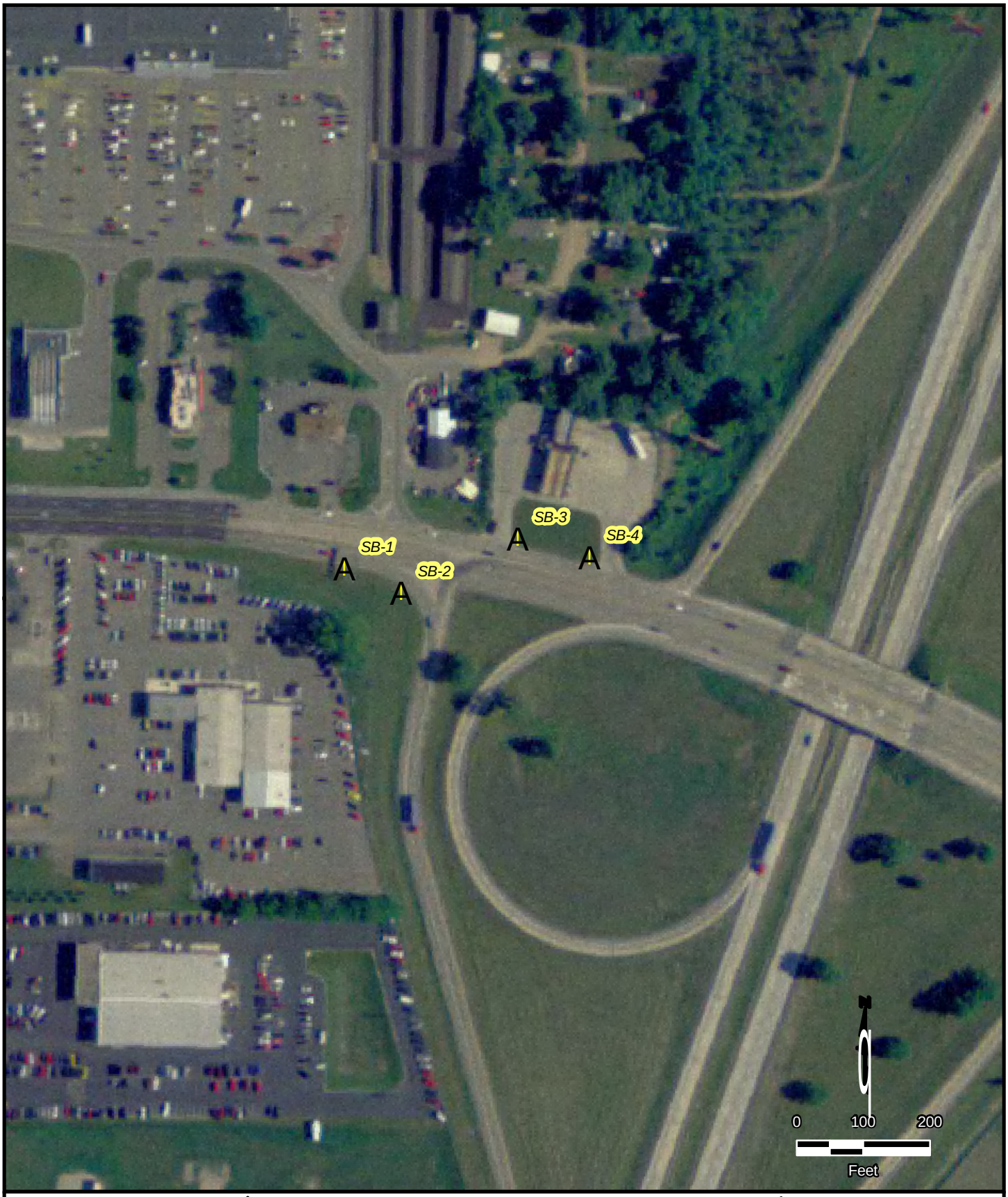
| FIGURE NUMBER | 1 | |

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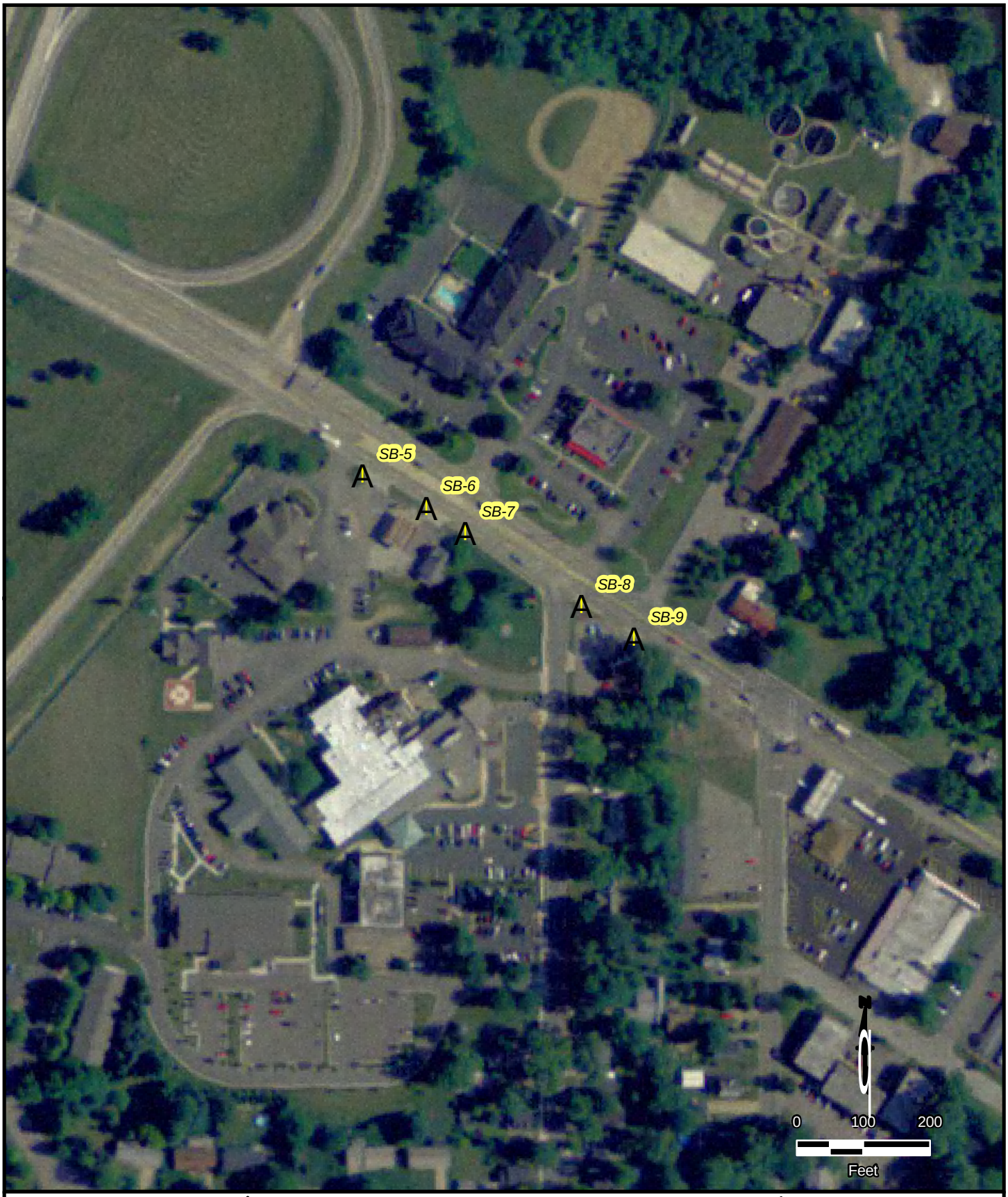
# GEOPROBE SAMPLE LOCATIONS
# 1149 AND 1186 EAST M-89

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
| PROJECT NUMBER | 60103292 | |
| FIGURE NUMBER | 2 | |

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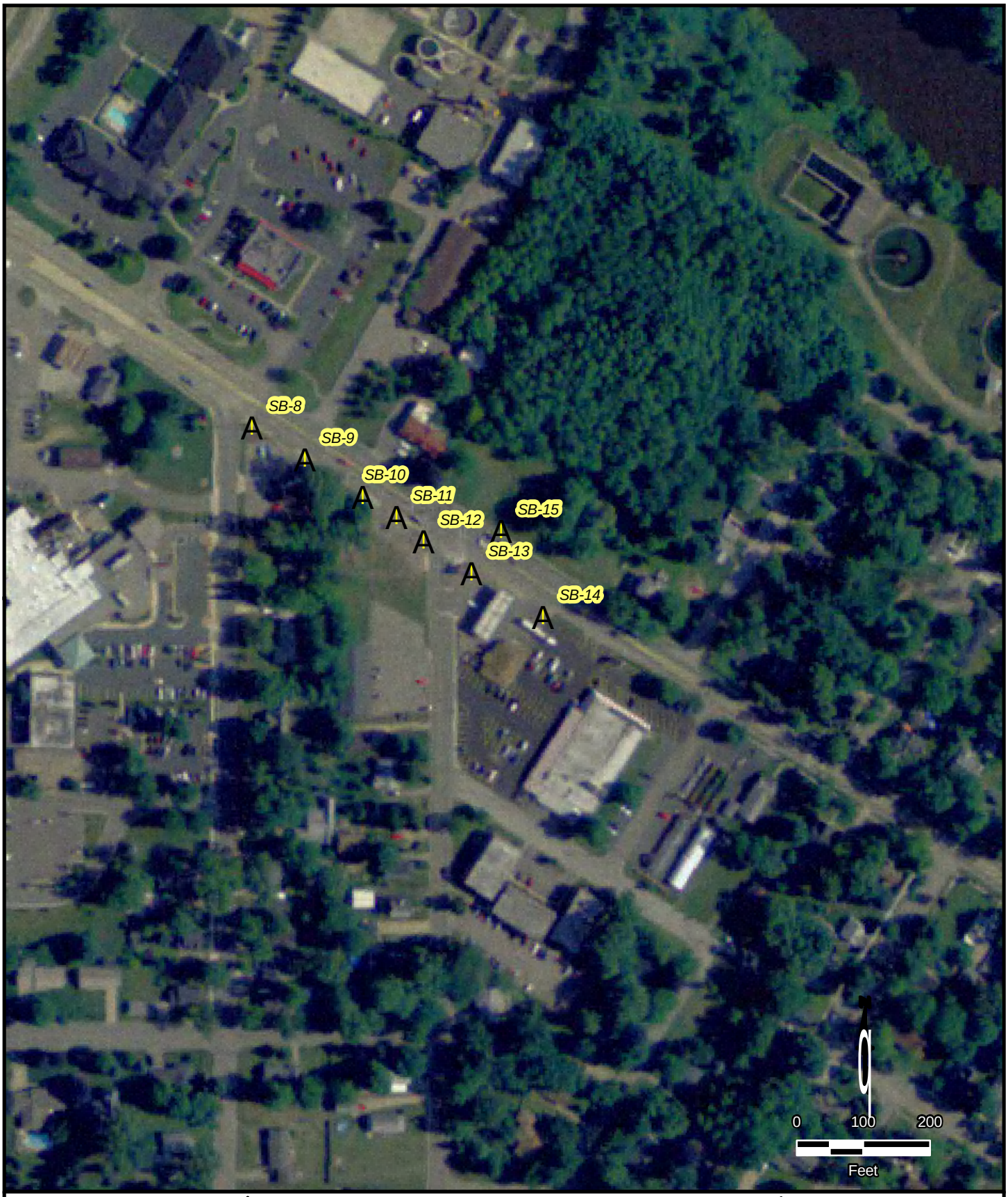
# GEOPROBE SAMPLE LOCATIONS
# 665 AND 623 ALLEGAN STREET

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
| PROJECT NUMBER | 60103292 | |
| FIGURE NUMBER | 3 | |

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# GEOPROBE SAMPLE LOCATIONS
# 601 AND 551 ALLEGAN STREET

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
| PROJECT NUMBER | 60103292 | |
| FIGURE NUMBER | 4 | |


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# GEOPROBE SAMPLE LOCATIONS
# M-89 ADJACENT TO PLAINWELL
# PAPER MILL

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
| PROJECT NUMBER | 60103292 | |
| FIGURE NUMBER | 5 | |


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# SEDIMENT SAMPLE LOCATIONS
# KALAMAZOO RIVER MILL RACE

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
| PROJECT NUMBER | 60103292 | |
| FIGURE NUMBER | 6 | |


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# GEOPROBE SAMPLE LOCATIONS
# 200 BLOCK EAST BRIDGE STREET

| | | |
|---|---|---|
| Drawn: | KGK | 12/14/2009 |
| Approved: | ARB | 12/15/2009 |
| Scale: | AS SHOWN | |
| PROJECT NUMBER | 60103292 | |
| FIGURE NUMBER | 7 | |

**TABLE 1**
**Summary of Proposed Subsurface Exploration**
**M-89 Preliminary Site Investigation, Plainwell, Allegan County, MI**
**AECOM Project No. 60103292**

| LOCATION | NUMBER OF BORINGS | PROPOSED DEPTH | SAMPLES | RATIONALE | ANALYTICAL | NOTES |
|---|---|---|---|---|---|---|
| Admiral gas station, 1149 E. M-89, West side of US-131 interchange | 2 borings | 20 feet | 2 soil samples, 1 groundwater if encountered | Active gasoline filling station | Petroleum VOCs (8260), PNAs (8270) | Immediately west of US-131 exit ramp. |
| Harold Zeigler Chrysler dealership, 1186 E. M-89 | 2 borings | 20 feet | 2 soil samples, 1 groundwater if encountered | Active auto dealership and repair facility. | Petroleum VOCs (8260), PNAs (8270), Cd, Cr, Pb | Two borings at eastern end of site, nearest to US-131 interchange. |
| Admiral gas station, 665 Allegan Street (M-89) | 3 borings | 20 feet | 3 soil samples, 1 groundwater if encountered | Active gasoline filling station, open LUST (Part 213) site | Petroleum VOCs (8260), PNAs (8270) | Site with approximately 175 feet of frontage on M-89 |
| Vacant lot, 623 Allegan Street (M-89) | 2 borings | 20 feet | 2 soil samples, 1 groundwater if encountered | Waste oil site and former gasoline station. | Petroleum VOCs (8260), PNAs (8270), Cd, Cr, Pb | Waste oil site (Part 201) and former gasoline station. 3 monitoring wells present on site. |
| Vacant lot, 601 Allegan Street (M-89) | 3 borings | 20 feet | 3 soil samples, 1 groundwater if encountered | Former gasoline filling station | Petroleum VOCs (8260), PNAs (8270) | Former gas station site adjacent to waste oil site (above) |
| Wesco gas station, 551 Allegan Street (M-89) | 3 borings | 20 feet | 3 soil samples, 1 groundwater if encountered | Active gasoline filling station | Petroleum VOCs (8260), PNAs (8270) | Two borings on Wesco site, one across M-89 to the north, where a monitoring well currently exists. |
| Plainwell Paper Mill | 3 borings | 20 feet | 3 soil samples, 1 groundwater if encountered | Former paper mill, Part 201 and Superfund site. | Full Scan VOCs (8260), PNAs (8270), 10 Metals, PCBs | Three borings proposed along north side of M-89. Some monitoring wells visible along fenceline. |

**TABLE 1**
**Summary of Proposed Subsurface Exploration**
**M-89 Preliminary Site Investigation, Plainwell, Allegan County, MI**
**AECOM Project No. 60103292**

| LOCATION | NUMBER OF BORINGS | PROPOSED DEPTH | SAMPLES | RATIONALE | ANALYTICAL | NOTES |
|---|---|---|---|---|---|---|
| Kalamazoo River Mill Race | 4 sediment samples | 2 feet | 4 sediment samples | Proximity to former Plainwell Paper Mill and Kalamazoo River Superfund Site | PNAs (8270), 10 Metals, PCBs | Collect as many as 4 sediment samples from bottom of stream, adjacent to existing bridge structure |
| SBC Communications facility, 200 Block of East Bridge Street | 1 boring | 20 feet | 1 soil sample, 1 groundwater if encountered | SBC facility with diesel-powered generator | Petroleum VOCs (8260), PNAs (8270) | Generator building approximately 120 feet south of Bridge Street. |

**TABLE 2**
**Summary of Soil and Groundwater Sampling Points**
**M-89 - Plainwell, Allegan County, Michigan**

| Boring Number | Total Depth (ft) | Approximate Surface Elevation (ft) * | Depth to Groundwater (ft) | Approximate Groundwater Elevation (ft) | Location - Address | MDOT Station | Samples |
|---|---|---|---|---|---|---|---|
| SB-1 | 20 | NA | Not Encountered | | North side of M-89, east end of 1149 East M-89 property (Admiral gasoline station) | NA | Soil sample at 12-12.5 feet bgs |
| SB-2 | 20 | NA | Not Encountered | | North side of M-89, west end of 1149 East M-89 property (Admiral gasoline station) | NA | Soil sample at 17-18 feet bgs |
| SB-3 | 20 | NA | Not Encountered | | South side of M-89, east end of 1186 East M-89 property (Harold Zeigler Chrysler dealership) | NA | Soil sample at 10-11 feet bgs |
| SB-4 | 20 | NA | Not Encountered | | South side of M-89, west end of 1186 East M-89 property (Harold Zeigler Chrysler dealership) | NA | Soil sample at 4-5 feet bgs |
| SB-5 | 20 | NA | 19.0 | | South side of M-89, west end of 665 Allegan Street (M-89) property (Admiral gasoline station) | NA | Soil sample at 18-19 feet bgs |
| SB-6 | 20 | NA | 17.5 | | South side of M-89, middle portion of 665 Allegan Street (M-89) property (Admiral gasoline station) | NA | Soil sample at 1-2 feet bgs, groundwater from 15-20 feet bgs |
| SB-7 | 20 | NA | 16.5 | | South side of M-89, east end of 665 Allegan Street (M-89) property (Admiral gasoline station) | NA | Soil sample at 16-16.5 feet bgs |
| SB-8 | 15 | NA | 14.5 | | South side of M-89, west end of 623 Allegan Street (M-89) property (former gasoline station and waste oil site) | NA | Soil sample at 4-5 feet bgs |
| SB-9 | 20 | NA | 14.0 | | South side of M-89, east end of 623 Allegan Street (M-89) property (former gasoline station and waste oil site) | NA | Soil sample at 5-5.5 feet bgs, groundwater from 12-17 feet bgs |
| SB-10 | 15 | NA | 14.0 | | South side of M-89, west end of 601 Allegan Street (M-89) property (former gasoline station) | NA | Soil sample at 0.5-1.5 feet bgs |
| SB-11 | 15 | NA | 13.0 | | South side of M-89, middle portion of 601 Allegan Street (M-89) property (former gasoline station) | NA | Soil sample at 2-3 feet bgs |
| SB-12 | 20 | NA | 14.0 | | South side of M-89, east end of 601 Allegan Street (M-89) property (former gasoline station) | NA | Soil sample at 3-4 feet bgs, groundwater from 12-17 feet bgs |
| SB-13 | 15 | NA | 13.0 | | South side of M-89, west end of 551 Allegan Street (M-89) property (Wesco gasoline station) | NA | Soil sample at 2-3 feet bgs |
| SB-14 | 15 | NA | 14.0 | | South side of M-89, east end of 551 Allegan Street (M-89) property (Wesco gasoline station) | NA | Soil sample at 3-4 feet bgs |
| SB-15 | 15 | NA | 13.5 | | North side of M-89, across road from 551 Allegan Street (M-89) property (Wesco gasoline station) and adjacent to existing monitor well | NA | Soil sample at 5-6 feet bgs, groundwater from 10-15 feet bgs |

**TABLE 2**
**Summary of Soil and Groundwater Sampling Points**
**M-89 - Plainwell, Allegan County, Michigan**

| Boring Number | Total Depth (ft) | Approximate Surface Elevation (ft) * | Depth to Groundwater (ft) | Approximate Groundwater Elevation (ft) | Location - Address | MDOT Station | Samples |
|---|---|---|---|---|---|---|---|
| SB-16 | 15 | NA | 12.0 | | North side of M-89 (Allegan Street), east end of former Plainwell Paper Mill property | NA | Soil sample at 9-9.7 feet bgs |
| SB-17 | 15 | NA | 13.0 | | North side of M-89 (Allegan Street), middle portion of former Plainwell Paper Mill property | NA | Soil sample at 12-13 feet bgs, groundwater from 10-15 feet bgs |
| SB-18 | 15 | NA | 11.5 | | North side of M-89 (Allegan Street), west end of former Plainwell Paper Mill property | NA | Soil sample at 4-4.5 feet bgs |
| SB-19 | 15 | NA | 11.5 | | South side of M-89 (East Bridge Street), middle portion of SBC Communications building located in 200 block of East Bridge Street | NA | Soil sample at 1-2 feet bgs, groundwater at 10-15 feet bgs |
| SS-1 | ~0.5 | NA | NA | | Northwest corner of Kalamazoo River Mill Race bridge (Allegan Street) | NA | Sediment sample |
| SS-2 | ~0.5 | NA | NA | | Northeast corner of Kalamazoo River Mill Race bridge (Allegan Street) | NA | Sediment sample |
| SS-3 | ~0.5 | NA | NA | | Southwest corner of Kalamazoo River Mill Race bridge (Allegan Street) | NA | Sediment sample |
| SS-4 | ~0.5 | NA | NA | | Southeast corner of Kalamazoo River Mill Race bridge (Allegan Street) | NA | Sediment sample |

* Detailed MDOT project plans not availble to AECOM at the time of this PSI, so surface elevation and MDOT Stationing is not available.

**TABLE 3**
**SOIL SAMPLE ANALYTICAL RESULTS - FULL SCAN VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|
| Sample ID | SB-16 | SB-17 | SB-18 | Drinking | Direct |
| Depth (feet) | 9-9.7 | 12-13 | 4-5 | Water | Contact |
| Date Collected | 11/13/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| Volatiles by 8260 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | | |
| Acetone | <1,000 | <1,000 | <1,000 | 15,000 | 23,000,000 |
| Acrylonitrile | <100 | <100 | <100 | 52 | 16,000 |
| Benzene | <50 | <50 | <50 | 100 | 180,000 |
| Bromobenzene | <100 | <100 | <100 | 550 | 540,000 |
| Bromochloromethane | <100 | <100 | <100 | No Criteria Available | |
| Bromodichloromethane | <100 | <100 | <100 | 2,000 | 110,000 |
| Bromoform | <100 | <100 | <100 | 2,000 | 820,000 |
| Bromomethane | <200 | <200 | <200 | 200 | 320,000 |
| 2-Butanone | <750 | <750 | <750 | 260,000 | 27,000,000 |
| n-Butylbenzene | <50 | <50 | <50 | 1,600 | 2,500,000 |
| sec-Butylbenzene | <50 | <50 | <50 | 1,600 | 2,500,000 |
| tert-Butylbenzene | <50 | <50 | <50 | 1,600 | 2,500,000 |
| Carbon Disulfide | <250 | <250 | <250 | 16,000 | 280,000 |
| Carbon Tetrachloride | <50 | <50 | <50 | 100 | 96,000 |
| Chlorobenzene | <50 | <50 | <50 | 2,000 | 260,000 |
| Chloroethane | <250 | <250 | <250 | 8,600 | 950,000 |
| Chloroform | <50 | <50 | <50 | 2,000 | 1,200,000 |
| Chloromethane | <250 | <250 | <250 | 5,200 | 1,100,000 |
| 2-Chlorotoluene | <50 | <50 | <50 | 3,300 | 500,000 |
| Dibromochloromethane | <100 | <100 | <100 | 2,000 | 110,000 |
| 1,2-Dibromo-3-chloropropane | <10 | <10 | <10 | 4 | 1,200 |
| Dibromomethane | <250 | <250 | <250 | 1,600 | 2,000,000 |
| 1,2-Dichlorobenzene | <100 | <100 | <100 | 14,000 | 210,000 |
| 1,3-Dichlorobenzene | <100 | <100 | <100 | 170 | 170,000 |
| 1,4-Dichlorobenzene | <100 | <100 | <100 | 1,700 | 400,000 |
| Dichlorodifluoromethane | <250 | <250 | <250 | 95,000 | 1,000,000 |
| 1,1-Dichloroethane | <50 | <50 | <50 | 18,000 | 890,000 |
| 1,2-Dichloroethane | <50 | <50 | <50 | 100 | 91,000 |
| 1,1-Dichloroethene | <50 | <50 | <50 | 140 | 200,000 |
| cis-1,2-Dichloroethene | <50 | <50 | <50 | 1,400 | 640,000 |
| trans-1,2-Dichloroethene | <50 | <50 | <50 | 2,000 | 1,400,000 |
| 1,2-Dichloropropane | <50 | <50 | <50 | 100 | 140,000 |

**TABLE 3**
**SOIL SAMPLE ANALYTICAL RESULTS - FULL SCAN VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|
| Sample ID | SB-16 | SB-17 | SB-18 | Drinking | Direct |
| Depth (feet) | 9-9.7 | 12-13 | 4-5 | Water | Contact |
| Date Collected | 11/13/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| Volatiles by 8260 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | | |
| cis-1,3-Dichloropropene | <50 | <50 | <50 | 170 | 10,000 |
| trans-1,3-Dichloropropene | <50 | <50 | <50 | 170 | 10,000 |
| Ethylbenzene | <50 | <50 | <50 | 1,500 | 140,000 |
| Ethylene Dibromide | <20 | <20 | <20 | 250 | 250 |
| 2-Hexanone | <2,500 | <2,500 | <2,500 | 20,000 | 2,500,000 |
| Iodomethane | <100 | <100 | <100 | No Criteria Available | |
| Isopropylbenzene | <250 | <250 | <250 | 91,000 | 390,000 |
| 4-Methyl-2-Pentanone | <2,500 | <2,500 | <2,500 | 36,000 | 2,700,000 |
| Methylene Chloride | <100 | <100 | <100 | 100 | 1,300,000 |
| MTBE | <250 | <250 | <250 | 800 | 1,500,000 |
| Naphthalene | <330 | <330 | <330 | 35,000 | 16,000,000 |
| n-Propylbenzene | <100 | <100 | <100 | 1,600 | 2,500,000 |
| Styrene | <50 | <50 | <50 | 2,700 | 400,000 |
| 1,1,1,2-Tetrachloroethane | <100 | <100 | <100 | 1,500 | 440,000 |
| 1,1,2,2-Tetrachloroethane | <50 | <50 | <50 | 170 | 53,000 |
| Tetrachloroethene | <50 | <50 | <50 | 100 | 88,000 |
| Toluene | <50 | <50 | <50 | 16,000 | 250,000 |
| 1,2,4-Trichlorobenzene | <330 | <330 | <330 | 4,200 | 990,000 |
| 1,1,1-Trichloroethane | <50 | <50 | <50 | 4,000 | 460,000 |
| 1,1,2-Trichloroethane | <50 | <50 | <50 | 100 | 180,000 |
| Trichloroethene | <50 | <50 | <50 | 100 | 500,000 |
| Trichlorofluoromethane | <100 | <100 | <100 | 52,000 | 560,000 |
| 1,2,3-Trichloropropane | <100 | <100 | <100 | 840 | 830,000 |
| 1,2,3-Trimethylbenzene | <100 | <100 | <100 | No Criteria Available | |
| 1,2,4-Trimethylbenzene | <100 | <100 | <100 | 2,100 | 110,000 |
| 1,3,5-Trimethylbenzene | <100 | <100 | <100 | 1,800 | 94,000 |
| Vinyl Chloride | <40 | <40 | <40 | 40 | 3,800 |
| Total Xylenes | <150 | <150 | <150 | 5,600 | 150,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006
NA = Not Analyzed
Shaded cell indicates concentration exceeds one or more applicable criteria.
**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 4**
**SOIL SAMPLE ANALYTICAL RESULTS - PETROLEUM VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-6 | Drinking | Direct |
| Depth (feet) | 12-12.5 | 17-18 | 4-5 | 10-11 | 18-19 | 1-2 | Water | Contact |
| Date Collected | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| Volatiles by 8260 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Benzene | <50 | <50 | <50 | <50 | <50 | <50 | 100 | 180,000 |
| Ethylbenzene | <50 | <50 | <50 | <50 | <50 | <50 | 1,500 | 140,000 |
| MTBE | <250 | <250 | <250 | <250 | <250 | <250 | 800 | 1,500,000 |
| Naphthalene | <330 | <330 | <330 | <330 | <330 | <330 | 35,000 | 16,000,000 |
| Toluene | <50 | <50 | <50 | <50 | <50 | <50 | 16,000 | 250,000 |
| 1,2,3-Trimethylbenzene | <100 | <100 | <100 | <100 | <100 | <100 | No Criteria Available | |
| 1,2,4-Trimethylbenzene | <100 | <100 | <100 | <100 | <100 | <100 | 2,100 | 110,000 |
| 1,3,5-Trimethylbenzene | <100 | <100 | <100 | <100 | <100 | <100 | 1,800 | 94,000 |
| Total Xylenes | <150 | <150 | <150 | <150 | <150 | <150 | 5,600 | 150,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NA = Not Analyzed

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 4**
**SOIL SAMPLE ANALYTICAL RESULTS - PETROLEUM VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-7 | SB-8 | SB-9 | SB-10 | SB-11 | SB-12 | Drinking | Direct |
| Depth (feet) | 16-16.5 | 4-5 | 5-5.5 | 0.5-1.5 | 2-3 | 3-4 | Water | Contact |
| Date Collected | 11/13/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | Protection | Criteria |
| Volatiles by 8260 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Benzene | <50 | <50 | <50 | <50 | <50 | <50 | 100 | 180,000 |
| Ethylbenzene | <50 | <50 | <50 | <50 | <50 | <50 | 1,500 | 140,000 |
| MTBE | <250 | <250 | <250 | <250 | <250 | <250 | 800 | 1,500,000 |
| Naphthalene | <330 | <330 | <330 | <330 | <330 | <330 | 35,000 | 16,000,000 |
| Toluene | <50 | <50 | <50 | <50 | <50 | <50 | 16,000 | 250,000 |
| 1,2,3-Trimethylbenzene | <100 | <100 | <100 | <100 | <100 | <100 | No Criteria Available | |
| 1,2,4-Trimethylbenzene | <100 | <100 | <100 | <100 | <100 | <100 | 2,100 | 110,000 |
| 1,3,5-Trimethylbenzene | <100 | <100 | <100 | <100 | <100 | <100 | 1,800 | 94,000 |
| Total Xylenes | <150 | <150 | <150 | <150 | <150 | <150 | 5,600 | 150,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NA = Not Analyzed

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 4**
**SOIL SAMPLE ANALYTICAL RESULTS - PETROLEUM VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|
| Sample ID | SB-13 | SB-14 | SB-15 | SB-19 | Drinking | Direct |
| Depth (feet) | 2-3 | 3-4 | 5-6 | 1-2 | Water | Contact |
| Date Collected | 11/13/09 | 11/13/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| Volatiles by 8260 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Benzene | <50 | <50 | <50 | <50 | 100 | 180,000 |
| Ethylbenzene | <50 | <50 | <50 | <50 | 1,500 | 140,000 |
| MTBE | <250 | <250 | <250 | <250 | 800 | 1,500,000 |
| Naphthalene | <330 | <330 | <330 | <330 | 35,000 | 16,000,000 |
| Toluene | <50 | <50 | <50 | <50 | 16,000 | 250,000 |
| 1,2,3-Trimethylbenzene | <100 | <100 | <100 | <100 | No Criteria Available | |
| 1,2,4-Trimethylbenzene | <100 | <100 | <100 | <100 | 2,100 | 110,000 |
| 1,3,5-Trimethylbenzene | <100 | <100 | <100 | <100 | 1,800 | 94,000 |
| Total Xylenes | <150 | <150 | <150 | <150 | 5,600 | 150,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NA = Not Analyzed

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 5**
**SOIL SAMPLE ANALYTICAL RESULTS - PNAs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-1 | SB-2 | SB-3 | SB-4 | SB-5 | SB-6 | Drinking | Direct |
| Depth (feet) | 12-12.5 | 17-18 | 4-5 | 10-11 | 18-19 | 1-2 | Water | Contact |
| Date Collected | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| PNAs by 8270 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Acenaphthene | <330 | <330 | <330 | <330 | <330 | <330 | 300,000 | 41,000,000 |
| Acenaphthylene | <330 | **400** | <330 | <330 | <330 | <330 | 5,900 | 1,600,000 |
| Anthracene | <330 | **700** | <330 | <330 | <330 | <330 | 41,000 | 230,000,000 |
| Benzo(a)anthracene | <330 | **4,200** | <330 | <330 | <330 | <330 | NLL | 20,000 |
| Benzo(a)pyrene | <330 | **4,000** | <330 | <330 | <330 | <330 | NLL | 2,000 |
| Benzo(b)fluoranthene | **370** | **5,600** | <330 | <330 | <330 | <330 | NLL | 20,000 |
| Benzo(ghi)perylene | <330 | **1,700** | <330 | <330 | <330 | <330 | NLL | 2,500,000 |
| Benzo(k)fluoranthene | <330 | **2,100** | <330 | <330 | <330 | <330 | NLL | 200,000 |
| Chrysene | <330 | **3,800** | <330 | <330 | <330 | <330 | NLL | 2,000,000 |
| Dibenzo(a,h)anthracene | <330 | **770** | <330 | <330 | <330 | <330 | NLL | 2,000 |
| Fluoranthene | **870** | **8,400** | <330 | <330 | <330 | <330 | 730,000 | 46,000,000 |
| Fluorene | <330 | <330 | <330 | <330 | <330 | <330 | 390,000 | 27,000,000 |
| Indeno(1,2,3-cd)pyrene | <330 | **1,900** | <330 | <330 | <330 | <330 | NLL | 20,000 |
| 2-Methylnaphthalene | <330 | <330 | <330 | <330 | <330 | <330 | 57,000 | 8,100,000 |
| Phenanthrene | <330 | **3,400** | <330 | <330 | <330 | <330 | 56,000 | 1,600,000 |
| Pyrene | **970** | **6,900** | <330 | <330 | <330 | <330 | 480,000 | 29,000,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NLL = Not Likely to Leach

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 5**
**SOIL SAMPLE ANALYTICAL RESULTS - PNAs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-7 | SB-8 | SB-9 | SB-10 | SB-11 | SB-12 | Drinking | Direct |
| Depth (feet) | 16-16.5 | 4-5 | 5-5.5 | 0.5-1.5 | 2-3 | 3-4 | Water | Contact |
| Date Collected | 11/13/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | Protection | Criteria |
| PNAs by 8270 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Acenaphthene | <330 | <330 | <330 | <330 | <330 | <330 | 300,000 | 41,000,000 |
| Acenaphthylene | <330 | <330 | <330 | <330 | <330 | <330 | 5,900 | 1,600,000 |
| Anthracene | <330 | <330 | <330 | <330 | <330 | <330 | 41,000 | 230,000,000 |
| Benzo(a)anthracene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 20,000 |
| Benzo(a)pyrene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,000 |
| Benzo(b)fluoranthene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 20,000 |
| Benzo(ghi)perylene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,500,000 |
| Benzo(k)fluoranthene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 200,000 |
| Chrysene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,000,000 |
| Dibenzo(a,h)anthracene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,000 |
| Fluoranthene | <330 | <330 | <330 | <330 | <330 | <330 | 730,000 | 46,000,000 |
| Fluorene | <330 | <330 | <330 | <330 | <330 | <330 | 390,000 | 27,000,000 |
| Indeno(1,2,3-cd)pyrene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 20,000 |
| 2-Methylnaphthalene | <330 | <330 | <330 | <330 | <330 | <330 | 57,000 | 8,100,000 |
| Phenanthrene | <330 | <330 | <330 | <330 | **380** | <330 | 56,000 | 1,600,000 |
| Pyrene | <330 | <330 | <330 | <330 | <330 | <330 | 480,000 | 29,000,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NLL = Not Likely to Leach

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 5**
**SOIL SAMPLE ANALYTICAL RESULTS - PNAs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-13 | SB-14 | SB-15 | SB-16 | SB-17 | SB-18 | Drinking | Direct |
| Depth (feet) | 2-3 | 3-4 | 5-6 | 9-9.7 | 12-13 | 4-5 | Water | Contact |
| Date Collected | 11/13/09 | 11/13/09 | 11/13/09 | 11/13/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| PNAs by 8270 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Acenaphthene | <330 | <330 | <330 | <330 | <330 | <330 | 300,000 | 41,000,000 |
| Acenaphthylene | <330 | <330 | <330 | <330 | <330 | <330 | 5,900 | 1,600,000 |
| Anthracene | <330 | <330 | <330 | <330 | <330 | <330 | 41,000 | 230,000,000 |
| Benzo(a)anthracene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 20,000 |
| Benzo(a)pyrene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,000 |
| Benzo(b)fluoranthene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 20,000 |
| Benzo(ghi)perylene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,500,000 |
| Benzo(k)fluoranthene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 200,000 |
| Chrysene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,000,000 |
| Dibenzo(a,h)anthracene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 2,000 |
| Fluoranthene | <330 | <330 | <330 | <330 | <330 | <330 | 730,000 | 46,000,000 |
| Fluorene | <330 | <330 | <330 | **370** | <330 | <330 | 390,000 | 27,000,000 |
| Indeno(1,2,3-cd)pyrene | <330 | <330 | <330 | <330 | <330 | <330 | NLL | 20,000 |
| 2-Methylnaphthalene | <330 | <330 | <330 | <330 | <330 | <330 | 57,000 | 8,100,000 |
| Phenanthrene | <330 | <330 | <330 | <330 | <330 | <330 | 56,000 | 1,600,000 |
| Pyrene | <330 | <330 | <330 | <330 | <330 | <330 | 480,000 | 29,000,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NLL = Not Likely to Leach

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 5**
**SOIL SAMPLE ANALYTICAL RESULTS - PNAs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | Part 201 Generic Residential Cleanup Criteria* | |
|---|---|---|---|
| Sample ID | SB-19 | Drinking | Direct |
| Depth (feet) | 1-2 | Water | Contact |
| Date Collected | 11/13/09 | Protection | Criteria |
| PNAs by 8270 (µg/Kg) | **Conc.** | | |
| Acenaphthene | <330 | 300,000 | 41,000,000 |
| Acenaphthylene | <330 | 5,900 | 1,600,000 |
| Anthracene | <330 | 41,000 | 230,000,000 |
| Benzo(a)anthracene | <330 | NLL | 20,000 |
| Benzo(a)pyrene | <330 | NLL | 2,000 |
| Benzo(b)fluoranthene | <330 | NLL | 20,000 |
| Benzo(ghi)perylene | <330 | NLL | 2,500,000 |
| Benzo(k)fluoranthene | <330 | NLL | 200,000 |
| Chrysene | <330 | NLL | 2,000,000 |
| Dibenzo(a,h)anthracene | <330 | NLL | 2,000 |
| Fluoranthene | <330 | 730,000 | 46,000,000 |
| Fluorene | <330 | 390,000 | 27,000,000 |
| Indeno(1,2,3-cd)pyrene | <330 | NLL | 20,000 |
| 2-Methylnaphthalene | <330 | 57,000 | 8,100,000 |
| Phenanthrene | <330 | 56,000 | 1,600,000 |
| Pyrene | <330 | 480,000 | 29,000,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NLL = Not Likely to Leach

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 6**
**SOIL SAMPLE ANALYTICAL RESULTS - Metals**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | Part 201 Generic Cleanup Criteria* | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | SB-3 | SB-4 | SB-8 | SB-9 | SB-16 | SB-17 | Residential | Residential | Statewide |
| Depth (feet) | 4-5 | 10-11 | 4-5 | 5-5.5 | 9-9.7 | 12-13 | Drinking Water | Direct Contact | Default |
| Date Collected | 11/12/09 | 11/12/09 | 11/12/09 | 11/12/09 | 11/13/09 | 11/13/09 | Protection | Criteria | Background |
| Total Metals (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | | |
| Arsenic | NA | NA | NA | NA | **2,300** | **1,400** | 4,600 | 7,600 | 5,800 |
| Barium | NA | NA | NA | NA | **18,000** | **3,300** | 1,300,000 | 37,000,000 | 75,000 |
| Cadmium | **120** | **250** | <50 | <50 | **59** | <50 | 6,000 | 550,000 | 1,200 |
| Chromium | **10,000** | **11,000** | **5,800** | **7,500** | **4,600** | **3,200** | 1,000,000,000 | 790,000,000 | 18,000 |
| Copper | NA | NA | NA | NA | **3,400** | **2,200** | 5,800,000 | 20,000,000 | 32,000 |
| Lead | **24,000** | **27,000** | **6,000** | **4,300** | **2,200** | **1,300** | 700,000 | 400,000 | 21,000 |
| Mercury | NA | NA | NA | NA | <50 | <50 | 1,700 | 160,000 | 130 |
| Selenium | NA | NA | NA | NA | <200 | <200 | 4,000 | 2,600,000 | 410 |
| Silver | NA | NA | NA | NA | <100 | <100 | 4,500 | 2,500,000 | 1,000 |
| Zinc | NA | NA | NA | NA | **11,000** | **8,000** | 2,400,000 | 170,000,000 | 47,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

NA = Not Analyzed

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 6**
**SOIL SAMPLE ANALYTICAL RESULTS - Metals**
**M-89 - Plainwell, Allegan County, Michigan**

| | | Part 201 Generic Cleanup Criteria* | | |
|---|---|---|---|---|
| Sample ID | SB-18 | Residential | Residential | Statewide |
| Depth (feet) | 4-5 | Drinking Water | Direct Contact | Default |
| Date Collected | 11/13/09 | Protection | Criteria | Background |
| Total Metals (µg/Kg) | **Conc.** | | | |
| Arsenic | **4,000** | 4,600 | 7,600 | 5,800 |
| Barium | **49,000** | 1,300,000 | 37,000,000 | 75,000 |
| Cadmium | **120** | 6,000 | 550,000 | 1,200 |
| Chromium | **6,100** | 1,000,000,000 | 790,000,000 | 18,000 |
| Copper | **7,700** | 5,800,000 | 20,000,000 | 32,000 |
| Lead | **27,000** | 700,000 | 400,000 | 21,000 |
| Mercury | <50 | 1,700 | 160,000 | 130 |
| Selenium | <200 | 4,000 | 2,600,000 | 410 |
| Silver | <100 | 4,500 | 2,500,000 | 1,000 |
| Zinc | **29,000** | 2,400,000 | 170,000,000 | 47,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 7**
**SOIL SAMPLE ANALYTICAL RESULTS - PCBs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | Part 201 Generic Residential Cleanup Criteria* | |
|---|---|---|---|---|---|
| Sample ID | SB-16 | SB-17 | SB-18 | Drinking | Direct |
| Depth (feet) | 9-9.7 | 12-13 | 4-5 | Water | Contact |
| Date Collected | 11/13/09 | 11/13/09 | 11/13/09 | Protection | Criteria |
| PCBs by 8082 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | | |
| Aroclor-1016 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1221 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1232 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1242 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1248 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1254 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1260 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1262 | <330 | <330 | <330 | NLL | 4,000 |
| Aroclor-1268 | <330 | <330 | <330 | NLL | 4,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006
NA = Not Analyzed
Shaded cell indicates concentration exceeds one or more applicable criteria.
**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 8**
**GROUNDWATER SAMPLE ANALYTICAL RESULTS-FULL SCAN VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | **Part 201 Generic Cleanup Criteria*** |
|---|---|---|
| Sample ID | SB-17 | Residential |
| Date Collected | 11/13/09 | Drinking |
| | | Water |
| Volatiles by 8260 (µg/L) | **Conc.** | |
| Acetone | <50 | 730 |
| Acrylonitrile | <2.0 | 2.6 |
| Benzene | <1.0 | 5 |
| Bromobenzene | <1.0 | 18 |
| Bromochloromethane | <1.0 | No Criteria Available |
| Bromodichloromethane | <1.0 | 80 |
| Bromoform | <1.0 | 80 |
| Bromomethane | <5.0 | 10 |
| 2-Butanone | <25 | 13,000 |
| n-Butylbenzene | <1.0 | 80 |
| sec-Butylbenzene | <1.0 | 80 |
| tert-Butylbenzene | <1.0 | 80 |
| Carbon Disulfide | <5.0 | 800 |
| Carbon Tetrachloride | <1.0 | 5 |
| Chlorobenzene | <1.0 | 100 |
| Chloroethane | <5.0 | 430 |
| Chloroform | <3.0 | 80 |
| Chloromethane | <5.0 | 260 |
| 2-Chlorotoluene | <5.0 | 150 |
| Dibromochloromethane | <5.0 | 80 |
| 1,2-Dibromo-3-chloropropane | <1.0 | No Criteria Available |
| Dibromomethane | <5.0 | 80 |
| 1,2-Dichlorobenzene | <1.0 | 600 |
| 1,3-Dichlorobenzene | <1.0 | 6.6 |
| 1,4-Dichlorobenzene | <1.0 | 75 |
| Dichlorodifluoromethane | <5.0 | 1,700 |
| 1,1-Dichloroethane | <1.0 | 880 |
| 1,2-Dichloroethane | <1.0 | 5 |
| 1,1-Dichloroethene | <1.0 | 7 |
| cis-1,2-Dichloroethene | <1.0 | 70 |
| trans-1,2-Dichloroethene | <1.0 | 100 |
| 1,2-Dichloropropane | <1.0 | 5 |
| cis-1,3-Dichloropropene | <1.0 | 8.5 |
| trans-1,3-Dichloropropene | <1.0 | 8.5 |
| Ethylbenzene | <1.0 | 74 |
| Ethylene Dibromide | <1.0 | 0.05 |
| 2-Hexanone | <50 | 1,000 |
| Methyl Iodide | <5.0 | No Criteria Available |
| Isopropylbenzene | <5.0 | 800 |
| 4-Methyl-2-Pentanone | <50 | 1,800 |
| Methylene Chloride | <5.0 | 5 |
| MTBE | <5.0 | 40 |
| Naphthalene | <5.0 | 520 |
| n-Propylbenzene | <1.0 | 80 |
| Styrene | <1.0 | 100 |
| 1,1,1,2-Tetrachloroethane | <1.0 | 77 |
| 1,1,2,2-Tetrachloroethane | <1.0 | 8.5 |

**TABLE 8**
**GROUNDWATER SAMPLE ANALYTICAL RESULTS-FULL SCAN VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | **Part 201 Generic Cleanup Criteria*** |
|---|---|---|
| Sample ID | SB-17 | Residential |
| Date Collected | 11/13/09 | Drinking |
| | | Water |
| Volatiles by 8260 (µg/L) | **Conc.** | |
| Tetrachloroethene | <1.0 | 5 |
| Toluene | <1.0 | 790 |
| 1,2,4-Trichlorobenzene | <5.0 | 70 |
| 1,1,1-Trichloroethane | <1.0 | 200 |
| 1,1,2-Trichloroethane | <1.0 | 5 |
| Trichloroethene | <1.0 | 5 |
| Trichlorofluoromethane | <1.0 | 2,600 |
| 1,2,3-Trichloropropane | <1.0 | 42 |
| 1,2,3-Trimethylbenzene | <1.0 | No Criteria Available |
| 1,2,4-Trimethylbenzene | <1.0 | 63 |
| 1,3,5-Trimethylbenzene | <1.0 | 72 |
| Vinyl Chloride | <1.0 | 2 |
| Total Xylenes | <3.0 | 280 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 9**
**GROUNDWATER SAMPLE ANALYTICAL RESULTS-PETROLEUM VOCs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | **Part 201 Generic Cleanup Criteria*** |
|---|---|---|---|---|---|---|
| Sample ID | SB-6 | SB-9 | SB-12 | SB-15 | SB-19 | Residential |
| Date Collected | 11/13/09 | 11/13/09 | 11/12/09 | 11/13/09 | 11/13/09 | Drinking |
| | | | | | | Water |
| Volatiles by 8260 (µg/L) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | |
| Benzene | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 5 |
| Ethylbenzene | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 74 |
| MTBE | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 40 |
| Naphthalene | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | 520 |
| Toluene | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 790 |
| 1,2,3-Trimethylbenzene | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | No Criteria Available |
| 1,2,4-Trimethylbenzene | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 63 |
| 1,3,5-Trimethylbenzene | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 72 |
| Total Xylenes | <3.0 | <3.0 | <3.0 | <3.0 | <3.0 | 280 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 10**
**GROUNDWATER SAMPLE ANALYTICAL RESULTS - PNAs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | | | **Part 201 Generic Residential Cleanup Criteria*** |
|---|---|---|---|---|---|---|---|
| Sample ID | SB-6 | SB-9 | SB-12 | SB-15 | SB-17 | SB-19 | Drinking |
| Date Collected | 11/13/09 | 11/13/09 | 11/12/09 | 11/13/09 | 11/13/09 | 11/13/09 | Water |
| | | | | | | | |
| PNAs by 8270 (µg/L) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | **Conc.** | |
| Acenaphthene | <5.0 | <5.0 | <5.0 | <5.0 | <10 | <5.0 | 1,300 |
| Acenaphthylene | <5.0 | <5.0 | <5.0 | <5.0 | <10 | <5.0 | 52 |
| Anthracene | <5.0 | <5.0 | <5.0 | <5.0 | <10 | <5.0 | 43 |
| Benzo(a)anthracene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 2.1 |
| Benzo(a)pyrene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 5.0 |
| Benzo(b)fluoranthene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 1.5 |
| Benzo(ghi)perylene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 1.0 |
| Benzo(k)fluoranthene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 1.0 |
| Chrysene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 1.6 |
| Dibenzo(a,h)anthracene | <2.0 | <2.0 | <2.0 | <2.0 | <4.0 | <2.0 | 2.0 |
| Fluoranthene | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <1.0 | 210 |
| Fluorene | <5.0 | <5.0 | <5.0 | <5.0 | <10 | <5.0 | 880 |
| Indeno(1,2,3-cd)pyrene | <2.0 | <2.0 | <2.0 | <2.0 | <4.0 | <2.0 | 2.0 |
| 2-Methylnaphthalene | <5.0 | <5.0 | <5.0 | <5.0 | <10 | <5.0 | 260 |
| Phenanthrene | <2.0 | <2.0 | <2.0 | <2.0 | <4.0 | <2.0 | 52 |
| Pyrene | <5.0 | <5.0 | <5.0 | <5.0 | <10 | <5.0 | 140 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 11**
**GROUNDWATER SAMPLE ANALYTICAL RESULTS - Metals**
**M-89 - Plainwell, Allegan County, Michigan**

| | | **Part 201 Generic Cleanup Criteria*** |
|---|---|---|
| Sample ID | SB-17 | Drinking |
| Date Collected | 11/13/09 | Water |
| Total Metals (µg/L) | **Conc.** | |
| Arsenic | <5.0 | 10 |
| Barium | <100 | 2,000 |
| Cadmium | <1.0 | 5 |
| Chromium | <10 | 100 |
| Copper | <4.0 | 1,000 |
| Lead | <3.0 | 4 |
| Mercury | <0.20 | 2 |
| Selenium | <5.0 | 50 |
| Silver | <0.20 | 34 |
| Zinc | <50 | 2,400 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 2006
Shaded cell indicates concentration exceeds one or more applicable criteria.
Bold cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 12**
**GROUNDWATER SAMPLE ANALYTICAL RESULTS - PCBs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | **Part 201 Generic Residential Cleanup Criteria*** |
|---|---|---|
| Sample ID | SB-17 | Residential |
| Date Collected | 11/13/09 | Drinking |
| | | Water |
| PCBs by 8082 (µg/L) | **Conc.** | |
| Aroclor-1016 | <0.4 | 0.5 |
| Aroclor-1221 | <0.4 | 0.5 |
| Aroclor-1232 | <0.4 | 0.5 |
| Aroclor-1242 | <0.4 | 0.5 |
| Aroclor-1248 | <0.4 | 0.5 |
| Aroclor-1254 | <0.4 | 0.5 |
| Aroclor-1260 | <0.4 | 0.5 |
| Aroclor-1262 | <0.4 | 0.5 |
| Aroclor-1268 | <0.4 | 0.5 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 23, 2006
NLL = Not Likely to Leach
Shaded cell indicates concentration exceeds one or more applicable criteria.

**TABLE 13**
**SEDIMENT SAMPLE ANALYTICAL RESULTS - Metals**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | Average Concentration | Part 201 Generic Cleanup Criteria* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample ID | SS-1 | SS-2 | SS-3 | SS-4 | | Residential | Residential | Industrial | Statewide |
| Date Collected | 11/9/09 | 11/9/09 | 11/9/09 | 11/9/09 | | Drinking Water | Direct Contact | Direct Contact | Default |
| | | | | | | Protection | Criteria | Criteria | Background |
| Total Metals (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | | | | |
| Arsenic | **1,500** | **1,900** | **2,100** | **2,500** | 2,000 | 4,600 | 7,600 | 37,000 | 5,800 |
| Barium | **25,000** | **17,000** | **26,000** | **32,000** | 25,000 | 1,300,000 | 37,000,000 | 130,000,000 | 75,000 |
| Cadmium | **77** | **92** | **79** | **170** | 105 | 6,000 | 550,000 | 2,100,000 | 1,200 |
| Chromium | **8,300** | **8,500** | **9,000** | **9,100** | 8,725 | 1,000,000,000 | 790,000,000 | 1,000,000,000 | 18,000 |
| Copper | **3,800** | **4,400** | **21,000** | **7,200** | 9,100 | 5,800,000 | 20,000,000 | 73,000,000 | 32,000 |
| Lead | **14,000** | **16,000** | **11,000** | **31,000** | 18,000 | 700,000 | 400,000 | 900,000 | 21,000 |
| Mercury | **73** | <62 | <67 | <62 | 120 | 1,700 | 160,000 | 580,000 | 130 |
| Selenium | <200 | <200 | <200 | <200 | <200 | 4,000 | 2,600,000 | 9,600,000 | 410 |
| Silver | <100 | <100 | <100 | <100 | <100 | 4,500 | 2,500,000 | 9,000,000 | 1,000 |
| Zinc | **28,000** | **29,000** | **29,000** | **33,000** | 29,750 | 2,400,000 | 170,000,000 | 630,000,000 | 47,000 |

* Part 201 Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 23, 2006
Shaded cell indicates concentration exceeds one or more applicable criteria.
**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 14**
**SEDIMENT SAMPLE ANALYTICAL RESULTS - PCBs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | **Part 201 Generic Residential Cleanup Criteria*** | |
|---|---|---|---|---|---|---|
| Sample ID | SS-1 | SS-2 | SS-3 | SS-4 | Drinking | Direct |
| Date Collected | 11/9/09 | 11/9/09 | 11/9/09 | 11/9/09 | Water | Contact |
| | | | | | Protection | Criteria |
| PCBs by 8082 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Aroclor-1016 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1221 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1232 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1242 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1248 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1254 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1260 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1262 | <330 | <410 | <440 | <410 | NLL | 4,000 |
| Aroclor-1268 | <330 | <410 | <440 | <410 | NLL | 4,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 23, 2006
NLL = Not Likely to Leach
Shaded cell indicates concentration exceeds one or more applicable criteria.
**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

**TABLE 15**
**SEDIMENT SAMPLE ANALYTICAL RESULTS - PNAs**
**M-89 - Plainwell, Allegan County, Michigan**

| | | | | | Part 201 Generic Residential Cleanup Criteria* | |
|---|---|---|---|---|---|---|
| Sample ID | SS-1 | SS-2 | SS-3 | SS-4 | Drinking | Direct |
| Date Collected | 11/9/09 | 11/9/09 | 11/9/09 | 11/9/09 | Water | Contact |
| | | | | | Protection | Criteria |
| PNAs by 8270 (µg/Kg) | **Conc.** | **Conc.** | **Conc.** | **Conc.** | | |
| Acenaphthene | <470 | <410 | <440 | <410 | 300,000 | 41,000,000 |
| Acenaphthylene | <470 | <410 | <440 | <410 | 5,900 | 1,600,000 |
| Anthracene | <470 | <410 | **670** | <410 | 41,000 | 230,000,000 |
| Benzo(a)anthracene | **860** | <410 | **1,300** | <410 | NLL | 20,000 |
| Benzo(a)pyrene | **940** | <410 | **780** | <410 | NLL | 2,000 |
| Benzo(b)fluoranthene | **1,300** | <410 | **960** | <410 | NLL | 20,000 |
| Benzo(ghi)perylene | **640** | <410 | <440 | <410 | NLL | 2,500,000 |
| Benzo(k)fluoranthene | <470 | <410 | <440 | <410 | NLL | 200,000 |
| Chrysene | **860** | <410 | **890** | <410 | NLL | 2,000,000 |
| Dibenzo(a,h)anthracene | <470 | <410 | <440 | <410 | NLL | 2,000 |
| Fluoranthene | **2,400** | <410 | **2,400** | <410 | 730,000 | 46,000,000 |
| Fluorene | <470 | <410 | <440 | <410 | 390,000 | 27,000,000 |
| Indeno(1,2,3-cd)pyrene | **530** | <410 | <400 | <410 | NLL | 20,000 |
| 2-Methylnaphthalene | <470 | <410 | <440 | <410 | 57,000 | 8,100,000 |
| Naphthalene | <470 | <410 | <440 | <410 | 35,000 | 16,000,000 |
| Phenanthrene | **1,500** | <410 | **1,200** | <410 | 56,000 | 1,600,000 |
| Pyrene | **1,800** | <410 | **1,700** | <410 | 480,000 | 29,000,000 |

* Part 201 Residential and Commercial I Generic Cleanup Criteria and Screening Levels, MDEQ Administrative Rules, January 23, 2006

NLL = Not Likely to Leach

Shaded cell indicates concentration exceeds one or more applicable criteria.

**Bold** cells indicates concentrations in excess of the laboratory reporting limit.

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-1**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil. | | |
| | 1 | GP | | | SW | Brown silty fine-medium sand with gravel. | | 0 |
| 5.0 | | | | | | 5.0 | | |
| | | | | | SW | Brown fine-medium sand, some silt and gravel. 6.5 | | |
| | 2 | GP | | | SP-SM | Dark brown silty fine sand, trace gravel. | | 0 |
| 10.0 | | | | | | 11.0 | | |
| | 3 | GP | | | SW | Brown fine-medium sand, trace silt. Asphalt piece noted @ 12.5' bgs. | | 0 |
| | | | | | SP-SM | 14.0 14.5 Dark brown silty fine sand. | | |
| 15.0 | | | | | | Brown fine-medium sand, trace silt. | | |
| | 4 | GP | | | SW | | | 0 |
| 20.0 | | | | | | 20.0 | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Collected soil sample rom 12-12.5' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **Not encountered** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-10**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| SURFACE ELEVATION | | | | | | | | |
| 0.4 | | | | | | Asphalt. | | |
| | 1 | GP | | | SP-SM | Dark brown fine silty sand, trace gravel. | | 0 |
| 3.5 | | | | | | | | |
| 5.0 | | | | | SP-SM | Brown/red fine silty sand. | | |
| 5.5 | | | | | | | | |
| | 2 | GP | | | SW | Tan fine-coarse sand with gravel, trace silt. Saturated @ 14' bgs. | | 0 |
| 10.0 | | | | | | | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | | | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 0.5-1.5' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **14' WS** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-11**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.4 Asphalt. | | |
| | 1 | GP | | | SP-SM | Dark brown fine silty sand, trace gravel. | | 0 |
| | | | | | | 4.0 | | |
| 5.0 | | | | | SP-SM | Brown/red fine silty sand. | | |
| | | | | | | 6.0 | | |
| | 2 | GP | | | | Tan fine-coarse sand with gravel, trace silt. Saturated @ 13' bgs. | | 0 |
| 10.0 | | | | | SW | | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | | 15.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 2-3' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$ (1 2 3 4 5)

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)

STANDARD PENETRATION BLOWS/FT. (10 20 30 40 50)

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **13' WS** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-12**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil. Brown/red sandy clay with silt, trace gravel. | | |
| | 1 | GP | | | CL | | | 0 |
| 5.0 | | | | | | 5.5 | | |
| | | | | | | Brown fine-coarse sand with silt and gravel. Saturated @ 14' bgs. | | |
| | 2 | GP | | | | | | 0 |
| 10.0 | | | | | SW-SM | | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | SW | 14.5 15.0 Tan gravelly fine-medium sand, some silt. | | |
| | 4 | GP | | | SW | Gray gravelly fine-coarse sand grading to gravel with depth. Mild organic odor. | | 0 |
| 20.0 | | | | | | 20.0 | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Soil sample collected from 3-4' bgs. | | |
| | | | | | | Groundwater collected through 1" temporary PVC monitoring well screened from 12-17' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **14' WS** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-13**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.4 Asphalt. | | |
| | 1 | GP | | | SP-SM | Brown/orange silty fine sand with gravel. | | 0 |
| | | | | | | 3.5 | | |
| 5.0 | | | | | SW-SM | Brown silty fine-medium sand with gravel. | | |
| | | | | | | 6.0 | | |
| | 2 | GP | | | | Tan fine-coarse sand with gravel, trace silt. Saturated @ 13' bgs. | | 0 |
| 10.0 | | | | | SW | | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | | 15.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 2-3' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **13' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-14**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.4 Asphalt. | | |
| | 1 | GP | | | SP-SM | Brown silty fine-medium sand with gravel. | | 0 |
| 5.0 | | | | | | 5.0 | | |
| | | | | | SW | Tan fine-coarse sand with gravel. | | |
| | | | | | | 7.0 | | |
| | 2 | GP | | | SW | Brown fine-medium sand, trace silt. | | 0 |
| 10.0 | | | | | | 11.5 | | |
| | 3 | GP | | | SW | Tan fine-coarse sand with gravel. Saturated @ 14' bgs. | | 0 |
| 15.0 | | | | | | 15.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 3-4' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **14' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-15**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 1.0 Topsoil and vegetation. | | |
| | 1 | GP | | | SW-SM | Dark brown/red silty fine-medium sand with gravel. | | 0 |
| 5.0 | | | | | | 6.5 | | |
| | 2 | GP | | | SW | Tan fine-coarse sand with gravel. Saturated @ 13.5' bgs. | | 0 |
| 10.0 | | | | | | | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | | 15.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 5-6' bgs. | | |
| | | | | | | Groundwater collected through 1" temporary PVC monitoring well screened from 10-15' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **13.5' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-16**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.8 Topsoil and vegetation. | | |
| | 1 | GP | | | SW | Brown/orange fine-coarse sand, some silt. | | 0 |
| 5.0 | | | | | | | | |
| | 2 | GP | | | | | | 0 |
| 10.0 | | | | | | 9.7 | | |
| | | | | | SW | 10.0 Rock. | | |
| | | | | | SW | 12.0 Brown/orange fine-coarse sand, some silt. | | |
| | 3 | GP | | | SW | Tan gravelly fine-coarse sand. Saturated @ 12' bgs. | | 0 |
| 15.0 | | | | | | 15.0 | | |

EOB 15' bgs.

Soil sample collected from 9-9.7' bgs.

Backfilled with cuttings and bentonite.

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$ (1 2 3 4 5)

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)

STANDARD PENETRATION BLOWS/FT. (10 20 30 40 50)

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **12' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-17**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 1.0 Topsoil and vegetation. | | |
| 5.0 | 1 | GP | | | SW | Brown/orange fine-medium sand with silt. 5.5 | | 0 |
| | 2 | GP | | | SW | Brown fine-coarse sand with gravel. 7.5 | | |
| 10.0 | | | | | SW | Tan fine-medium sand, trace silt. Saturated @ 13' bgs. | | 0 |
| | 3 | GP | | | SW | 13.5 | | 0 |
| 15.0 | | | | | SW | Dark brown silty fine-medium sand with gravel. 15.0 | | |

EOB 15' bgs.

Soil sample collected from 12-13' bgs.

Groundwater collected through 1" temporary PVC monitoring well screened from 10-15' bgs.

Backfilled with cuttings and bentonite.

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **13' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-18**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 1.0 Topsoil and vegetation. | | |
| | 1 | GP | | | SW-SM | Brown silty fine-medium sand, trace gravel. | | 0 |
| 5.0 | | | | | | 7.0 | | |
| | 2 | GP | | | SW | Tan fine-coarse sand with gravel, trace silt. Saturated @ 11.5' bgs. | | 0 |
| 10.0 | | | | | | | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | | 15.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 4-5' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **11.5' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-19**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| SURFACE ELEVATION | | | | | | | | 0 |
| 1.0 | | | | | | Topsoil and vegetation. | | |
| | 1 | GP | | | SW-SM | Brown silty fine-medium sand, trace gravel. | | 0 |
| 5.0 | | | | | | | | |
| | 2 | GP | | | | | | 0 |
| 8.5 | | | | | | | | |
| 10.0 | | | | | | Tan fine-coarse sand with gravel, trace silt. Saturated @ 11.5' bgs. | | |
| | 3 | GP | | | SW | | | 0 |
| 15.0 | | | | | | | | |
| | | | | | | EOB 15' bgs. | | |

Soil sample collected from 4-5' bgs.

Groundwater collected through 1" temporary PVC monitoring well screened from 10-15' bgs.

Backfilled with cuttings and bentonite.

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **11.5' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

LOG OF BORING NUMBER: **SB-2**

PROJECT NAME: **M-89 PSI**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| SURFACE ELEVATION | | | | | | | | |
| | | | | | | 0.5 Topsoil. Brown silty fine-medium sand with gravel. | | |
| | 1 | GP | | | | | | 0 |
| 5.0 | | | | | SW | | | |
| | 2 | GP | | | | | | 0 |
| | | | | | | 9.5 | | |
| 10.0 | | | | | SW-SM | 10.0 Brown/red silty fine-medium sand, some gravel. Brown silty fine-medium sand with gravel. | | |
| | 3 | GP | | | SW | | | 0 |
| 15.0 | | | | | | 17.0 | | |
| | 4 | GP | | | SP-SM | Dark brown/black silty fine sand, trace gravel. | | 0 |
| | | | | | | 19.0 | | |
| 20.0 | | | | | SW | 20.0 Tan fine-medium sand, trace silt. | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Collected soil sample rom 17-18' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$ (1 2 3 4 5)

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)

STANDARD PENETRATION BLOWS/FT. (10 20 30 40 50)

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **Not encountered** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-3**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil. | | |
| | 1 | GP | | | SW | Brown fine-coarse sand with gravel. Rock from 4.5-5.0' bgs. | | 0 |
| 5.0 | | | | | | 5.0 | | |
| | | | | | | Tan fine-coarse sand with gravel, trace silt. | | |
| | 2 | GP | | | | | | 0 |
| 10.0 | | | | | | | | |
| | 3 | GP | | | SW | | | 0 |
| 15.0 | | | | | | | | |
| | 4 | GP | | | | | | 0 |
| 20.0 | | | | | | 20.0 | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Collected soil sample rom 10-11' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **Not encountered** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

| | |
|---|---|
| CLIENT: **MDOT** | LOG OF BORING NUMBER: **SB-4** |
| PROJECT NAME: **M-89 PSI** | AECOM FIELD REPRESENTATIVE: |
| SITE LOCATION: **Plainwell, MI** | |

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil. Brown fine-medium sand with silt and gravel. | | |
| | 1 | GP | | | | | | 0 |
| 5.0 | | | | | SW | | | |
| | 2 | GP | | | | | | 0 |
| 10.0 | | | | | | 10.0 | | |
| | | | | | | Tan fine-coarse sand with gravel, trace silt. | | |
| | 3 | GP | | | | | | 0 |
| 15.0 | | | | | SW | | | |
| | 4 | GP | | | | | | |
| 20.0 | | | | | | 20.0 | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Collected soil sample rom 4-5' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **Not encountered** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-5**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil. | | |
| 5.0 | 1 | GP | | | SW-SM | Dark brown silty fine-medium sand, trace gravel. 6.0 | | 0 |
| | 2 | GP | | | SW | Dark brown fine-medium sand, trace silt. 8.0 | | 0 |
| 10.0 | 3 | GP | | | SW | Brown fine-coarse sand with gravel. 15.0 | | 0 |
| 15.0 | 4 | GP | | | SW | Brown fine-medium sand, trace gravel and silt. Saturated @ 19' bgs. 20.0 | | 0 |
| 20.0 | | | | | | EOB 20' bgs. | | |
| | | | | | | Soil sample collected from 18-19' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$ 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **19' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

LOG OF BORING NUMBER: **SB-6**

PROJECT NAME: **M-89 PSI**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil. | | |
| 5.0 | 1 | GP | | | SW-SM | Dark brown silty fine-medium sand, trace gravel. | | 0 |
| | | | | | | 7.0 | | |
| 10.0 | 2 | GP | | | | Brown fine-coarse sand with gravel. Saturated @ 17.5' bgs. | | 0 |
| 15.0 | 3 | GP | | | SW | | | 0 |
| 20.0 | 4 | GP | | | | | | 0 |
| | | | | | | 20.0 | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Soil sample collected from 1-2' bgs. | | |
| | | | | | | Groundwater collected through 1" temporary PVC monitoring well screened from 15-20' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **17.5' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

LOG OF BORING NUMBER: **SB-7**

PROJECT NAME: **M-89 PSI**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil with vegetation. | | |
| | 1 | GP | | | SW-SM | Brown silty fine-medium sand, trace gravel. | | 0 |
| 5.0 | | | | | | 5.0 | | |
| | | | | | SP-SC | 6.0 Dark brown fine clayey sand with gravel. | | |
| | 2 | GP | | | SW | Brown fine-medium sand with gravel. | | 0 |
| 10.0 | | | | | | | | |
| | 3 | GP | | | SW | | | 0 |
| | | | | | | 14.0 | | |
| 15.0 | | | | | | Tan gravelly fine-coarse sand. Saturated @ 16.5' bgs. | | |
| | 4 | GP | | | SW | | | 0 |
| 20.0 | | | | | | 20.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 16-16.5' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$ 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **16.5' WS** | BORING STARTED **11/13/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/13/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-8**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.5 Topsoil with vegetation. | | |
| | 1 | GP | | | SW-SM | Brown fine-medium silty sand w/ gravel. | | 0 |
| 5.0 | | | | | | 5.0 | | |
| | 2 | GP | | | SP-SC | Brown fine-coarse sand with gravel, trace silt. | | 0 |
| 10.0 | | | | | | 10.0 | | |
| | 3 | GP | | | SW-SM | Tan gravelly fine-coarse sand. Saturated @ 14.5' bgs. | | 0 |
| 15.0 | | | | | | 15.0 | | |
| | | | | | | EOB 15' bgs. | | |
| | | | | | | Soil sample collected from 4-5' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$: 1 2 3 4 5

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT.: 10 20 30 40 50

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **14.5' WS** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

AECOM

CLIENT: **MDOT**

PROJECT NAME: **M-89 PSI**

LOG OF BORING NUMBER: **SB-9**

AECOM FIELD REPRESENTATIVE:

SITE LOCATION: **Plainwell, MI**

| DEPTH(FT) / ELEVATION(FT) | SAMPLE NO. | SAMPLE TYPE | SAMPLE DISTANCE | RECOVERY % | U.S.C.S. CODE | DESCRIPTION OF MATERIAL | Rock Quality Designation (RQD) | PHOTO-IONIZATION DETECTOR READING (PPM) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | SURFACE ELEVATION | | |
| | | | | | | 0.4 Asphalt. | | |
| | 1 | GP | | | SW-SM | Brown fine-medium silty sand w/ gravel. | | 0 |
| | | | | | | 4.0 | | |
| 5.0 | | | | | SW-SM | Brown fine-medium sand with silt, trace gravel. | | |
| | | | | | | 5.5 | | |
| | | | | | SW-SM | Brown fine-medium silty sand w/ gravel. | | |
| | | | | | | 7.0 | | |
| | 2 | GP | | | | Tan fine-coarse sand with gravel. Saturated @ 14' bgs. | | 0 |
| 10.0 | | | | | | | | |
| | 3 | GP | | | SW | | | 0 |
| 15.0 | | | | | | | | |
| | 4 | GP | | | | | | 0 |
| 20.0 | | | | | | 20.0 | | |
| | | | | | | EOB 20' bgs. | | |
| | | | | | | Soil sample collected from 5-5.5' bgs. | | |
| | | | | | | Groundwater sample collected through 1" temporary PVC monitoring well screened from 12-17' bgs. | | |
| | | | | | | Backfilled with cuttings and bentonite. | | |

UNCONFINED COMPRESSIVE STRENGTH TONS/FT.$^2$ (1 2 3 4 5)

PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)

STANDARD PENETRATION BLOWS/FT. (10 20 30 40 50)

The stratification lines represent the approximate boundary lines between soil types: in situ, the transition may be gradual.

| | | | |
|---|---|---|---|
| WL **14' WS** | BORING STARTED **11/12/09** | AECOM OFFICE **Lansing** | |
| WL | BORING COMPLETED **11/12/09** | ENTERED BY **CJS** | SHEET NO. **1** OF **1** |
| WL | RIG/FOREMAN **Fibertec - 6620DT/** | APP'D BY | AECOM JOB NO. **60103292** |

CRAIG.LOG 60103292 MDOT PLAINWELL.GPJ STS.GDT 12/23/09

Fibertec
environmental
services

Wednesday, November 18, 2009

Fibertec Project Number: 36754
Project Identification: MDOT/ Plainwell/60103292
Submittal Date: 11/10/2009

Mr. Craig Simon
AECOM - Lansing
401 S. Washington Square
Suite 103
Lansing, MI 48933

Dear Mr. Simon,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345. Please note samples will be disposed of 30 days after reporting date.

Sincerely,

Daryl P. Strandbergh
Laboratory Director

DPS/kc

Enclosures

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-001** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-1** |
| Project Number: | **60103292** | Client Sample Number: | **1** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 29.1%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **29** | % | 0.1 | 1 | MC091113 | 11/16/2009 | 11/17/2009 | BMG |
| **Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Arsenic | **1500** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Barium | **25000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Cadmium | **77** | µg/kg | 50 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Chromium | **8300** | µg/kg | 500 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Copper | **3800** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Lead | **14000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Zinc | **28000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **73** | µg/kg | 71 | 1 | PM09K17A | 11/17/2009 | 11/17/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Other (Solid)** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-001** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-1** |
| Project Number: | **60103292** | Client Sample Number: | **1** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 29.1%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1262 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1268 | **U** | µg/kg | 330 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Acenaphthylene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Anthracene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(a)anthracene | **860** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(a)pyrene | **940** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(b)fluoranthene | **1300** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(ghi)perylene | **640** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Chrysene | **860** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Fluoranthene | **2400** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Fluorene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **530** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Naphthalene | **U** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Phenanthrene | **1500** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Pyrene | **1800** | µg/kg | 470 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-002** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-2** |
| Project Number: | **60103292** | Client Sample Number: | **2** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 18.7%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Arsenic | **1900** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Barium | **17000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Cadmium | **92** | µg/kg | 50 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Chromium | **8500** | µg/kg | 500 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Copper | **4400** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Lead | **16000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Zinc | **29000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **U** | µg/kg | 62 | 1 | PM09K17A | 11/17/2009 | 11/17/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1262 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-002** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-2** |
| Project Number: | **60103292** | Client Sample Number: | **2** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 18.7%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1268 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Acenaphthylene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Anthracene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Chrysene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Fluoranthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Fluorene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Naphthalene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Phenanthrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |
| Pyrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-003** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-3** |
| Project Number: | **60103292** | Client Sample Number: | **3** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 24.9%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **25** | % | 0.1 | 1 | MC091113 | 11/16/2009 | 11/17/2009 | BMG |
| **Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Arsenic | **2100** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Barium | **26000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Cadmium | **79** | µg/kg | 50 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Chromium | **9000** | µg/kg | 500 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Copper | **21000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Lead | **11000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Zinc | **29000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **U** | µg/kg | 67 | 1 | PM09K17A | 11/17/2009 | 11/17/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-003** |

## Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-3** |
| Project Number: | **60103292** | Client Sample Number: | **3** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 24.9%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1262 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1268 | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | NA | BDA |
| Acenaphthylene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 #Error | NA | BDA |
| Anthracene | **670** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 #Error | 11/16/2009 | BDA |
| Benzo(a)anthracene | **1300** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Benzo(a)pyrene | **780** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Benzo(b)fluoranthene | **960** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Chrysene | **890** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Fluoranthene | **2400** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Fluorene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Naphthalene | **U** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Phenanthrene | **1200** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-003** |

## Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-3** |
| Project Number: | **60103292** | Client Sample Number: | **3** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 24.9%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Pyrene | **1700** | µg/kg | 440 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-004** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-4** |
| Project Number: | **60103292** | Client Sample Number: | **4** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 19.5%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **19** | % | 0.1 | 1 | MC091113 | 11/16/2009 | 11/17/2009 | BMG |
| **Michigan 10 Elements by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Arsenic | **2500** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Barium | **32000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Cadmium | **170** | µg/kg | 50 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Chromium | **9100** | µg/kg | 500 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Copper | **7200** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Lead | **31000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| Zinc | **33000** | µg/kg | 1000 | 1 | PT09K17A | 11/17/2009 | 11/17/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **U** | µg/kg | 62 | 1 | PM09K14B | 11/14/2009 | 11/14/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36754** | Sample Number: | **36754-004** |

## Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SS-4** |
| Project Number: | **60103292** | Client Sample Number: | **4** |
| Sample Date: | **11/9/2009** | Chain of Custody Number: | **75953** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 19.5%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1262 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| Aroclor-1268 | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/16/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Anthracene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Chrysene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Fluorene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Naphthalene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |
| Pyrene | **U** | µg/kg | 410 | 1 | PS09K16B | 11/16/2009 | 11/17/2009 | TMC |

**Fibertec** environmental services

**Analytical Laboratory**
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584

**Industrial Hygiene Services, Inc.**
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@fibertec.us

**Geoprobe**
11766 E. Grand River
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 75953
PAGE 1 of 1

Client Name: AECOM
Contact Person: CRAIG SIMON
Project Name/ Number: MDOT PLAINWELL 60103292
Purchase Order#

| Lab Sample # | Date | Time | Client Sample # | Client Sample Descriptor | MATRIX (SEE RIGHT CORNER FOR CODE) | # OF CONTAINERS | PRESERVED (Y/N) | PARAMETERS: PNAs | PCBs | M. 10 MET |
|---|---|---|---|---|---|---|---|---|---|---|
| | 11/9/09 | 1300 | 1 | SS-1 | X | 2 | N | X | X | X |
| | " | " | 2 | SS-2 | X | 2 | N | X | X | X |
| | " | " | 3 | SS-3 | X | 2 | N | X | X | X |
| | " | " | 4 | SS-4 | X | 2 | N | X | X | X |

Turnaround
- [ ] 24 hour RUSH (surcharge applies)
- [ ] 48 hour RUSH (surcharge applies)
- [ ] 72 hour RUSH (surcharge applies)
- [X] Standard (5-7 bus. days)
- [ ] Other: Specify

Matrix Code
S Soil | GW Ground Water
W Water | SW Surface Water
A Air | WW Waste Water
O Oil | [X] Other: Specify SEDIMENT
P Wipe

Remarks:

RCVD ON ICE 4

Comments:

| | Date/ Time | Received By: |
|---|---|---|
| Relinquished By: | 11/9/09 1800 | Steve Sarell 11/10/09 10:10am |
| Relinquished By: Steve Sarell | 11/10 10:25am | Received By: |
| Relinquished By: | Date/ Time | Received By Laboratory: Kylen Crandall 11/10 1033 |

LAB USE ONLY:
Fibertec project number: 36754
Laboratory Tracking:
Temperature at Receipt:

COC Revision: April, 2006

TERMS & CONDITIONS ON BACK

Fibertec
environmental
services

Wednesday, November 25, 2009

Fibertec Project Number: 36840
Project Identification: MDOT/ Plainwell/60103292
Submittal Date: 11/16/2009

Mr. Craig Simon
AECOM - Lansing
401 S. Washington Square
Suite 103
Lansing, MI 48933

Dear Mr. Simon,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note samples will be disposed of 30 days after reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345. Please note samples will be disposed of 30 days after reporting date.

Sincerely,

Daryl P. Strandbergh
Laboratory Director

DPS/kc

Enclosures

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-001** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-1 12-12.5'** |
| Project Number: | **60103292** | Client Sample Number: | **1** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 12.0%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-001A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-1 12-12.5'** |
| Project Number: | **60103292** | Client Sample Number: | **1** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 12.0%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **12** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **370** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **870** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **970** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-002** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-2 17-18'** |
| Project Number: | **60103292** | Client Sample Number: | **2** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 13.1%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-002A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-2 17-18'** |
| Project Number: | **60103292** | Client Sample Number: | **2** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 13.1%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **13** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Acenaphthylene | **400** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Anthracene | **700** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)anthracene | **4200** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)pyrene | **4000** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(b)fluoranthene | **5600** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(ghi)perylene | **1700** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(k)fluoranthene | **2100** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Chrysene | **3800** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Dibenzo(a,h)anthracene | **770** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Fluoranthene | **8400** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **1900** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Phenanthrene | **3400** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Pyrene | **6900** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-003** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-3 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **3** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.12%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-003A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-3 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **3** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.12%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **8.1** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Lead + Cadmium + Chromium by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Cadmium | **120** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **10000** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **24000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-003A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-3 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **3** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.12%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-004** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-4 10-11'** |
| Project Number: | **60103292** | Client Sample Number: | **4** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.62%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-004A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-4 10-11'** |
| Project Number: | **60103292** | Client Sample Number: | **4** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.62%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **8.6** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Lead + Cadmium + Chromium by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Cadmium | **250** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **11000** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **27000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-004A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-4 10-11'** |
| Project Number: | **60103292** | Client Sample Number: | **4** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.62%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-005** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-12 3-4'** |
| Project Number: | **60103292** | Client Sample Number: | **5** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 14.7%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-005A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-12 3-4'** |
| Project Number: | **60103292** | Client Sample Number: | **5** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 14.7%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **15** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/23/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-006** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-12** |
| Project Number: | **60103292** | Client Sample Number: | **6** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **VOCs - UST - Unleaded Gasoline (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-006A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-12** |
| Project Number: | **60103292** | Client Sample Number: | **6** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Acenaphthylene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Anthracene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Chrysene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluorene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Phenanthrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Pyrene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-007** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-11 2-3'** |
| Project Number: | **60103292** | Client Sample Number: | **7** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.07%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-007A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-11 2-3'** |
| Project Number: | **60103292** | Client Sample Number: | **7** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.07%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **8.1** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Phenanthrene | **380** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-008** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-10 .5-1.5'** |
| Project Number: | **60103292** | Client Sample Number: | **8** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.36%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-008A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-10 .5-1.5'** |
| Project Number: | **60103292** | Client Sample Number: | **8** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 8.36%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **8.4** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-009** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-8 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **9** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.36%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-009A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-8 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **9** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.36%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **6.4** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Lead + Cadmium + Chromium by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Cadmium | **U** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **5800** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **6000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-009A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-8 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **9** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.36%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-010** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-9 5-5.5'** |
| Project Number: | **60103292** | Client Sample Number: | **10** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.15%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/12/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-010A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-9 5-5.5'** |
| Project Number: | **60103292** | Client Sample Number: | **10** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.15%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **7.2** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Lead + Cadmium + Chromium by ICP/MS (EPA 3050B/EPA 6020)** | | | | | | | | |
| Cadmium | **U** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **7500** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **4300** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-010A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-9 5-5.5'** |
| Project Number: | **60103292** | Client Sample Number: | **10** |
| Sample Date: | **11/12/2009** | Chain of Custody Number: | **87854** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.15%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-011** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-9** |
| Project Number: | **60103292** | Client Sample Number: | **11** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **VOCs - UST - Unleaded Gasoline (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K20B | 11/20/2009 | 11/20/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-011A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-9** |
| Project Number: | **60103292** | Client Sample Number: | **11** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Acenaphthylene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Anthracene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Chrysene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluorene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Phenanthrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Pyrene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-012** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-7 16-16.5'** |
| Project Number: | **60103292** | Client Sample Number: | **12** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 4.52%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-012A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-7 16-16.5'** |
| Project Number: | **60103292** | Client Sample Number: | **12** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 4.52%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **4.5** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-013** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-6 1-2'** |
| Project Number: | **60103292** | Client Sample Number: | **13** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.18%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

Fibertec environmental services

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-013A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-6 1-2'** |
| Project Number: | **60103292** | Client Sample Number: | **13** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.18%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **6.2** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-014** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-6** |
| Project Number: | **60103292** | Client Sample Number: | **14** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **VOCs - UST - Unleaded Gasoline (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-014A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-6** |
| Project Number: | **60103292** | Client Sample Number: | **14** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Acenaphthylene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Anthracene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Chrysene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluorene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Phenanthrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Pyrene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-015** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-5 18-19'** |
| Project Number: | **60103292** | Client Sample Number: | **15** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 4.02%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-015A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-5 18-19'** |
| Project Number: | **60103292** | Client Sample Number: | **15** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 4.02%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **4.0** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | HLS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-016** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-15 5-6'** |
| Project Number: | **60103292** | Client Sample Number: | **16** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.51%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-016A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-15 5-6'** |
| Project Number: | **60103292** | Client Sample Number: | **16** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.51%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **7.5** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-017** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-15** |
| Project Number: | **60103292** | Client Sample Number: | **17** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **VOCs - UST - Unleaded Gasoline (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-017A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-15** |
| Project Number: | **60103292** | Client Sample Number: | **17** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Acenaphthylene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Anthracene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Chrysene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluorene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Phenanthrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Pyrene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-018** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-13 2-3'** |
| Project Number: | **60103292** | Client Sample Number: | **18** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.86%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-018A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-13 2-3'** |
| Project Number: | **60103292** | Client Sample Number: | **18** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 7.86%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **7.9** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/20/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-019** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-14 3-4'** |
| Project Number: | **60103292** | Client Sample Number: | **19** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 9.10%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-019A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-14 3-4'** |
| Project Number: | **60103292** | Client Sample Number: | **19** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 9.10%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **9.1** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3545/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19C | 11/19/2009 | 11/21/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-020** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-16 9.0-9.7'** |
| Project Number: | **60103292** | Client Sample Number: | **20** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.47%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| Acetone | **U** | µg/kg | 1000 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Acrylonitrile | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromochloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromodichloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromoform | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromomethane | **U** | µg/kg | 200 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Butanone | **U** | µg/kg | 750 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| n-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| sec-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| tert-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Carbon Disulfide | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Carbon Tetrachloride | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chlorobenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloroethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloroform | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloromethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Chlorotoluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dibromochloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-020** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-16 9.0-9.7'** |
| Project Number: | **60103292** | Client Sample Number: | **20** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.47%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | **U** | µg/kg | 10 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dibromomethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,4-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dichlorodifluoromethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1-Dichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| cis-1,2-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| trans-1,2-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichloropropane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| cis-1,3-Dichloropropene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| trans-1,3-Dichloropropene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylene Dibromide | **U** | µg/kg | 20 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Hexanone | **U** | µg/kg | 2500 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Methyl Iodide | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Isopropylbenzene | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 4-Methyl-2-pentanone | **U** | µg/kg | 2500 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-020** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-16 9.0-9.7'** |
| Project Number: | **60103292** | Client Sample Number: | **20** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.47%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| Methylene Chloride | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| n-Propylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Styrene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,1,2-Tetrachloroethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,2,2-Tetrachloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Tetrachloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trichlorobenzene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,1-Trichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,2-Trichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Trichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Trichlorofluoromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trichloropropane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Vinyl Chloride | **U** | µg/kg | 40 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-020A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-16 9.0-9.7'** |
| Project Number: | **60103292** | Client Sample Number: | **20** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.47%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **6.5** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Michigan 10 Elements by ICP/MS (EPA 6020)** | | | | | | | | |
| Arsenic | **2300** | µg/kg | 100 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Barium | **18000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Cadmium | **59** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **4600** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Copper | **3400** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **2200** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Zinc | **11000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **U** | µg/kg | 50 | 1 | PM09K19B | 11/19/2009 | 11/19/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-020A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-16 9.0-9.7'** |
| Project Number: | **60103292** | Client Sample Number: | **20** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87855** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 6.47%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1262 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1268 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Fluoranthene | **370** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-021** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17 12-13'** |
| Project Number: | **60103292** | Client Sample Number: | **21** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 2.89%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| Acetone | **U** | µg/kg | 1000 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Acrylonitrile | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromochloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromodichloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromoform | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromomethane | **U** | µg/kg | 200 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Butanone | **U** | µg/kg | 750 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| n-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| sec-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| tert-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Carbon Disulfide | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Carbon Tetrachloride | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chlorobenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloroethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloroform | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloromethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Chlorotoluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dibromochloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-021** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17 12-13'** |
| Project Number: | **60103292** | Client Sample Number: | **21** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 2.89%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | **U** | µg/kg | 10 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dibromomethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,4-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dichlorodifluoromethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1-Dichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| cis-1,2-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| trans-1,2-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichloropropane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| cis-1,3-Dichloropropene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| trans-1,3-Dichloropropene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylene Dibromide | **U** | µg/kg | 20 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Hexanone | **U** | µg/kg | 2500 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Methyl Iodide | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Isopropylbenzene | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 4-Methyl-2-pentanone | **U** | µg/kg | 2500 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-021** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17 12-13'** |
| Project Number: | **60103292** | Client Sample Number: | **21** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 2.89%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| Methylene Chloride | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| n-Propylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Styrene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,1,2-Tetrachloroethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,2,2-Tetrachloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Tetrachloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trichlorobenzene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,1-Trichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,2-Trichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Trichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Trichlorofluoromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trichloropropane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Vinyl Chloride | **U** | µg/kg | 40 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-021A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17 12-13'** |
| Project Number: | **60103292** | Client Sample Number: | **21** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 2.89%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **2.9** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Michigan 10 Elements by ICP/MS (EPA 6020)** | | | | | | | | |
| Arsenic | **1400** | µg/kg | 100 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Barium | **3300** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Cadmium | **U** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **3200** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Copper | **2200** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **1300** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Zinc | **8000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **U** | µg/kg | 50 | 1 | PM09K19B | 11/19/2009 | 11/19/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-021A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17 12-13'** |
| Project Number: | **60103292** | Client Sample Number: | **21** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 2.89%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1262 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1268 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/21/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-022** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17** |
| Project Number: | **60103292** | Client Sample Number: | **22** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Acetone | **U** | µg/L | 50 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Acrylonitrile | **U** | µg/L | 2.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromochloromethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromodichloromethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromoform | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromomethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Butanone | **U** | µg/L | 25 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| n-Butylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| sec-Butylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| tert-Butylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Carbon Disulfide | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Carbon Tetrachloride | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chloroethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chloroform | **U** | µg/L | 3.0 | 3 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chloromethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Chlorotoluene | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Dibromochloromethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-022** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17** |
| Project Number: | **60103292** | Client Sample Number: | **22** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Dibromomethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2-Dichlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,3-Dichlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,4-Dichlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Dichlorodifluoromethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1-Dichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2-Dichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1-Dichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| cis-1,2-Dichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| trans-1,2-Dichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2-Dichloropropane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| cis-1,3-Dichloropropene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| trans-1,3-Dichloropropene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Ethylene Dibromide | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Hexanone | **U** | µg/L | 50 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Methyl Iodide | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Isopropylbenzene | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 4-Methyl-2-pentanone | **U** | µg/L | 50 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-022** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17** |
| Project Number: | **60103292** | Client Sample Number: | **22** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Methylene Chloride | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| n-Propylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Styrene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,1,2-Tetrachloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,2,2-Tetrachloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Tetrachloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,4-Trichlorobenzene | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,1-Trichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,2-Trichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Trichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Trichlorofluoromethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,3-Trichloropropane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Vinyl Chloride | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-022A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17** |
| Project Number: | **60103292** | Client Sample Number: | **22** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3510C/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1221 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1232 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1242 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1248 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1254 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1260 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1262 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| Aroclor-1268 | **U** | µg/L | 0.40 | 2 | PS09K18G | 11/18/2009 | 11/20/2009 | TMC |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/L | 10 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Acenaphthylene | **U** | µg/L | 10 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Anthracene | **U** | µg/L | 10 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Chrysene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/L | 4.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-022A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17** |
| Project Number: | **60103292** | Client Sample Number: | **22** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Fluoranthene | **U** | µg/L | 2.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluorene | **U** | µg/L | 10 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/L | 4.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/L | 10 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Phenanthrene | **U** | µg/L | 4.0 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Pyrene | **U** | µg/L | 10 | 2 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-022B** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-17** |
| Project Number: | **60103292** | Client Sample Number: | **22** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Michigan 10 Elements by ICP/MS, Total Recoverable (EPA 6020)** | | | | | | | | |
| Arsenic | **U** | µg/L | 5.0 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Barium | **U** | µg/L | 100 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Cadmium | **U** | µg/L | 1.0 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Chromium | **U** | µg/L | 10 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Copper | **U** | µg/L | 4.0 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Lead | **U** | µg/L | 3.0 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Selenium | **U** | µg/L | 5.0 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Silver | **U** | µg/L | 0.20 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| Zinc | **U** | µg/L | 50 | 1 | PT09K19B | 11/19/2009 | 11/23/2009 | JLH |
| **Mercury by CVAAS, Total (EPA 7470A)** | | | | | | | | |
| Mercury | **U** | µg/L | 0.20 | 1 | PM09K19A | 11/19/2009 | 11/19/2009 | MAP |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-023** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-18 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **23** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.97%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| Acetone | **U** | µg/kg | 1000 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Acrylonitrile | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromochloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromodichloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromoform | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Bromomethane | **U** | µg/kg | 200 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Butanone | **U** | µg/kg | 750 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| n-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| sec-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| tert-Butylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Carbon Disulfide | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Carbon Tetrachloride | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chlorobenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloroethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloroform | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Chloromethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Chlorotoluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dibromochloromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-023** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-18 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **23** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.97%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | **U** | µg/kg | 10 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dibromomethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,4-Dichlorobenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Dichlorodifluoromethane | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1-Dichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| cis-1,2-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| trans-1,2-Dichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2-Dichloropropane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| cis-1,3-Dichloropropene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| trans-1,3-Dichloropropene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylene Dibromide | **U** | µg/kg | 20 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 2-Hexanone | **U** | µg/kg | 2500 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Methyl Iodide | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Isopropylbenzene | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 4-Methyl-2-pentanone | **U** | µg/kg | 2500 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-023** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-18 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **23** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.97%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS, 5035 (EPA 5035/EPA 8260B)** | | | | | | | | |
| Methylene Chloride | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| n-Propylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Styrene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,1,2-Tetrachloroethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,2,2-Tetrachloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Tetrachloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trichlorobenzene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,1-Trichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,1,2-Trichloroethane | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Trichloroethene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Trichlorofluoromethane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trichloropropane | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Vinyl Chloride | **U** | µg/kg | 40 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-023A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-18 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **23** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.97%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **6.0** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Michigan 10 Elements by ICP/MS (EPA 6020)** | | | | | | | | |
| Arsenic | **4000** | µg/kg | 100 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Barium | **49000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Cadmium | **120** | µg/kg | 50 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Chromium | **6100** | µg/kg | 500 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Copper | **7700** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Lead | **27000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Selenium | **U** | µg/kg | 200 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Silver | **U** | µg/kg | 100 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| Zinc | **29000** | µg/kg | 1000 | 1 | PT09K20A | 11/20/2009 | 11/20/2009 | JLH |
| **Mercury by CVAAS (EPA 7471A)** | | | | | | | | |
| Mercury | **U** | µg/kg | 50 | 1 | PM09K19B | 11/19/2009 | 11/19/2009 | MAP |
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1016 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1221 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1232 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1242 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1248 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1254 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1260 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-023A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-18 4-5'** |
| Project Number: | **60103292** | Client Sample Number: | **23** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.97%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polychlorinated Biphenyls (PCBs) (EPA 3550B/EPA 8082)** | | | | | | | | |
| Aroclor-1262 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| Aroclor-1268 | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | BDA |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-024** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-19 1-2'** |
| Project Number: | **60103292** | Client Sample Number: | **24** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.34%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **UST - Unleaded Gasoline - Volatiles (EPA 5035/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Ethylbenzene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| MTBE | **U** | µg/kg | 250 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Naphthalene | **U** | µg/kg | 330 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Toluene | **U** | µg/kg | 50 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/kg | 100 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |
| Xylenes | **U** | µg/kg | 150 | 1 | VA09K18A | 11/13/2009 | 11/18/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Soil/Solid** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-024A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-19 1-2'** |
| Project Number: | **60103292** | Client Sample Number: | **24** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments: **All Results Reported On Dry Weight Basis. Percent Moisture = 5.34%.**

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Dry Weight Determination (ASTM D 2974-87)** | | | | | | | | |
| Percent Moisture (Water Content) | **5.3** | % | 0.1 | 1 | MC091118 | 11/18/2009 | 11/19/2009 | BMG |
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3550B/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Acenaphthylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(a)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(b)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(ghi)perylene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Benzo(k)fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Chrysene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Dibenzo(a,h)anthracene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Fluoranthene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Fluorene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Indeno(1,2,3-cd)pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| 2-Methylnaphthalene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Phenanthrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |
| Pyrene | **U** | µg/kg | 330 | 1 | PS09K19B | 11/19/2009 | 11/20/2009 | TMC |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-025** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-19** |
| Project Number: | **60103292** | Client Sample Number: | **25** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **VOCs - UST - Unleaded Gasoline (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K20B | 11/21/2009 | 11/21/2009 | JAS |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-025A** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **SB-19** |
| Project Number: | **60103292** | Client Sample Number: | **25** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Polynuclear Aromatic Hydrocarbons (PNAs) (EPA 3535/EPA 8270C)** | | | | | | | | |
| Acenaphthene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Acenaphthylene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Anthracene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)anthracene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(a)pyrene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(b)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(ghi)perylene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Benzo(k)fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Chrysene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Dibenzo(a,h)anthracene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluoranthene | **U** | µg/L | 1.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Fluorene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Indeno(1,2,3-cd)pyrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| 2-Methylnaphthalene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Phenanthrene | **U** | µg/L | 2.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |
| Pyrene | **U** | µg/L | 5.0 | 1 | PS09K19A | 11/19/2009 | 11/19/2009 | BDA |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-026** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **Trip Blank** |
| Project Number: | **60103292** | Client Sample Number: | **26** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Acetone | **U** | µg/L | 50 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Acrylonitrile | **U** | µg/L | 2.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Benzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromochloromethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromodichloromethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromoform | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Bromomethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Butanone | **U** | µg/L | 25 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| n-Butylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| sec-Butylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| tert-Butylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Carbon Disulfide | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Carbon Tetrachloride | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chloroethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chloroform | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Chloromethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Chlorotoluene | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Dibromochloromethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-026** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **Trip Blank** |
| Project Number: | **60103292** | Client Sample Number: | **26** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| 1,2-Dibromo-3-chloropropane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Dibromomethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2-Dichlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,3-Dichlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,4-Dichlorobenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Dichlorodifluoromethane | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1-Dichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2-Dichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1-Dichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| cis-1,2-Dichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| trans-1,2-Dichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2-Dichloropropane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| cis-1,3-Dichloropropene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| trans-1,3-Dichloropropene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Ethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Ethylene Dibromide | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Hexanone | **U** | µg/L | 50 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Methyl Iodide | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Isopropylbenzene | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 4-Methyl-2-pentanone | **U** | µg/L | 50 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-026** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **Trip Blank** |
| Project Number: | **60103292** | Client Sample Number: | **26** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Methylene Chloride | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 2-Methylnaphthalene | **U** | µg/L | 5.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| MTBE | **U** | µg/L | 5.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Naphthalene | **U** | µg/L | 5.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| n-Propylbenzene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Styrene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,1,2-Tetrachloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,2,2-Tetrachloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Tetrachloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Toluene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,4-Trichlorobenzene | **U** | µg/L | 5.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,1-Trichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,1,2-Trichloroethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Trichloroethene | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| Trichlorofluoromethane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,3-Trichloropropane | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,3-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,2,4-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| 1,3,5-Trimethylbenzene | **U** | µg/L | 1.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |
| Vinyl Chloride | **U** | µg/L | 1.0 | 1 | VB09K23A | 11/23/2009 | 11/23/2009 | BAG |

# Analytical Laboratory Report

| | | | |
|---|---|---|---|
| Client Identification: | **AECOM - Lansing** | Sample Matrix: | **Ground Water** |
| Fibertec Project Number: | **36840** | Sample Number: | **36840-026** |

# Client Sample Information

| | | | |
|---|---|---|---|
| Project Identification: | **MDOT/ Plainwell** | Client Sample Description: | **Trip Blank** |
| Project Number: | **60103292** | Client Sample Number: | **26** |
| Sample Date: | **11/13/2009** | Chain of Custody Number: | **87856** |

Comments:

Definitions/ Qualifiers:

A: Spike recovery or precision unusable due to dilution.
B: The analyte was detected in the associated method blank.
E: The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
J: The concentration is an estimated value.
U: The analyte was not detected at or above the reporting limit.
X: Matrix Interference has resulted in a raised reporting limit or distorted result.
W: Results reported on a wet-weight basis.
*: Value reported is outside QA limits

| Analyte | Result | Units | Report Limit | Dilution Factor | Prep Batch | Prep Date/Time | Analysis Date/Time | Analyst |
|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds (VOCs) by GC/MS (EPA 5030B/EPA 8260B)** | | | | | | | | |
| Xylenes | **U** | µg/L | 3.0 | 1 | V909K23A | 11/23/2009 | 11/23/2009 | BAG |

**Fibertec environmental services**

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email: lab@fibertec.us

8660 S. Mackinaw Trail
Cadillac, MI 49601
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Fax: 231 775 8584

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Fax: 517 699 0382
email: asbestos@fibertec.us

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11766 E. Grand River
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 87854
PAGE 1 of 3

Client Name: AECOM
Contact Person: ~~[illegible]~~ CRAIG SIMON
Project Name/ Number: 60103292
Purchase Order#

| Lab Sample # | Date | Time | Client Sample # | Client Sample Descriptor | MATRIX (SEE RIGHT CORNER FOR CODE) | # OF CONTAINERS | PRESERVED (Y/N) | PARAMETERS: PNAs | BTEX, TMBs, MTBE | Cad, Cr, Pb |
|---|---|---|---|---|---|---|---|---|---|---|
| | 11/12/09 | 0915 | 1 | SB-1 12-12.5' | S | 2 | Y | X | X | |
| | 11/12/09 | 1000 | 2 | SB-2 17-18' | S | 2 | Y | X | X | |
| | 11/12/09 | 1030 | 3 | SB-3 4-5' | S | 2 | Y | X | X | X |
| | 11/12/09 | 1120 | 4 | SB-4 10-11' | S | 2 | Y | X | X | X |
| | 11/12/09 | 1305 | 5 | SB-12 3-4 | S | 2 | Y | X | X | [illegible] |
| | 11/12/09 | 1335 | 6 | SB-12 | GW | 3 | Y | X | X | |
| | 11/12/09 | 1400 | 7 | SB-11 2-3' | S | 2 | Y | X | X | |
| | 11/12/09 | 1430 | 8 | SB-10 .5-1.5' | S | 2 | Y | X | X | |
| | 11/12/09 | 1515 | 9 | SB-[illegible] 4-5' | S | 2 | Y | X | X | X |
| | 11/12/09 | 1540 | 10 | SB-9 5.5.6' | S | 2 | Y | X | X | X |

Turnaround:
- [ ] 24 hour RUSH (surcharge applies)
- [ ] 48 hour RUSH (surcharge applies)
- [ ] 72 hour RUSH (surcharge applies)
- [X] Standard (5-7 bus. days)
- [ ] Other: Specify

Matrix Code: S Soil; W Water; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Remarks:

Comments:

| | Date/ Time | |
|---|---|---|
| Relinquished By: | 11/13/09 1430 | Received By: |
| Relinquished By: | 11/16/09 4:15 | Received By: |
| Relinquished By: | Date/ Time | Received By Laboratory: |

LAB USE ONLY:
Fibertec project number: 36840
Laboratory Tracking:
Temperature at Receipt:

COC Revision: April, 2006

TERMS & CONDITIONS ON BACK

**Fibertec** environmental services

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**Industrial Hygiene Services, Inc.**
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email: asbestos@fibertec.us

**Geoprobe**
11766 E. Grand River
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 87855
PAGE 2 of 3

Client Name: AECOM
Contact Person: CRAIG SIMON
Project Name/ Number: 60103292
Purchase Order#

| Lab Sample # | Date | Time | Client Sample # | Client Sample Descriptor | MATRIX (SEE RIGHT CORNER FOR CODE) | # OF CONTAINERS | PRESERVED (Y/N) | PARAMETERS: BTEX, TMBs, MTBE | PNAs | Cad, Cr, Pb | MI 10 MERS | VOCs | PCBs | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11/13/09 | 1555 | 11 | SB-9 | GW | 3 | Y | X | X | | | | | |
| | 11/13/09 | 0835 | 12 | SB-7 16-16.5' | S | 2 | Y | X | X | | | | | |
| | 11/13/09 | 0910 | 13 | SB-6 1-2' | S | 2 | Y | X | X | | | | | |
| | 11/13/09 | 0930 | 14 | SB-6 | GW | 3 | Y | X | X | | | | | |
| | 11/13/09 | 1000 | 15 | SB-5 18-19' | S | 2 | Y | X | X | | | | | |
| | 11/13/09 | 1040 | 16 | SB-15 5-6' | S | 2 | Y | X | X | | | | | |
| | 11/13/09 | 1055 | 17 | SB-15 | GW | 3 | Y | X | X | | | | | |
| | 11/13/09 | 1130 | 18 | SB-13 2-3' | S | 2 | Y | X | X | | | | | |
| | 11/13/09 | 1200 | 19 | SB-14 3-4' | S | 2 | Y | X | X | | | | | |
| | 11/13/09 | | 20 | SB-16 9.0-9.7' | S | 3 | Y | | X | | X | X | X | |

Turnaround
- 24 hour RUSH (surcharge applies)
- 48 hour RUSH (surcharge applies)
- 72 hour RUSH (surcharge applies)
- X Standard (5-7 bus. days)
- Other: Specify

Matrix Code
- S Soil
- W Water
- A Air
- O Oil
- P Wipe
- GW Ground Water
- SW Surface Water
- WW Waste Water
- X Other: Specify

Comments:

| | Date/ Time | |
|---|---|---|
| Relinquished By: | 11/13/09 1430 | Received By: |
| Relinquished By: | 11/16/09 4:15 | Received By: |
| Relinquished By: | Date/ Time | Received By Laboratory: |

LAB USE ONLY:
Fibertec project number:
Laboratory Tracking:
Temperature at Receipt:

COC Revision: April, 2006

TERMS & CONDITIONS ON BACK

**Fibertec** environmental services

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**Geoprobe**
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Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Chain of Custody # 87856



Client Name: AECOM

Contact Person: Cattie Simon

Project Name/ Number: 60103792

Purchase Order#

| Lab Sample # | Date | Time | Client Sample # | Client Sample Descriptor | MATRIX (SEE RIGHT CORNER FOR CODE) | # OF CONTAINERS | PRESERVED (Y/N) | PARAMETERS: VOCs | PCBs | PNAs | MI 10 METS | BTEX, TMBs, MTBE | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 11/13/09 | 1255 | 21 | SB-17 12-13' | S | 3 | Y | X | X | X | X | | | | | | | |
| | 11/13/09 | 1315 | 22 | SB-17 | GW | 4 | Y | X | X | X | X | | | | | | | FIELD FILTERED |
| | 11/13/09 | 1350 | 23 | SB-18 4-5' | S | 3 | Y | X | X | X | X | | | | | | | |
| | 11/13/09 | 1415 | 24 | SB-19 1-2' | S | 2 | Y | | | X | | X | | | | | | |
| | 11/13/09 | 1430 | 25 | SB-19 | GW | 2 | Y | | | X | | X | | | | | | |

Turnaround:
- 24 hour RUSH (surcharge applies)
- 48 hour RUSH (surcharge applies)
- 72 hour RUSH (surcharge applies)
- [X] Standard (5-7 bus. days)
- Other: Specify

Matrix Code: S Soil; W Water; A Air; O Oil; P Wipe; GW Ground Water; SW Surface Water; WW Waste Water; X Other: Specify

Comments:

| | Date/ Time | Received By: |
|---|---|---|
| Relinquished By: | 11/13/09 1430 | |
| Relinquished By: | Date/ Time | Received By: |
| Relinquished By: | 11/16/09 4:15 | |
| | Date/ Time | Received By Laboratory: |

LAB USE ONLY:
Fibertec project number:
Laboratory Tracking:
Temperature at Receipt:

COC Revision: April, 2006

TERMS & CONDITIONS ON BACK

RCVD C
ICE
2C